National Day Care Association EPSDT Demonstration

Evaluation Report October 1, 1973—June 30, 1977

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THE NATIONAL CHILD DAY CARE ASSOCIATION
EPSDT DEMONSTRATION PROJECT

October 1, 1973 through June 30, 1977

IMPLEMENTATION OF COMPREHENSIVE EPSDT IN A DAY CARE ASSOCIATION
FINAL EVALUATION REPORT

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Executive Summary

This is the evaluation report for one of the original four demonstration projects designed to test alternate ways of optionally implementing the Title XIX (Medicaid) Early and Periodic Screening, Diagnosis, and Treatment program (EPSDT). The emphasis of the project was originally designed to investigate the ways of delivering complete EPSDT services within a day care setting, but in 1976, it was expanded to work with public schools having no health program.

The project was conducted by the National Child Day Care Association in Washington D.C. through a grant by the Social and Rehabilitation Service (now Health Care Financing Agency) to the Washington D.C. Department of Human Resources.

This summary describes what the project did, and the major lessons for child health care emanating from the experience as well as the data.

Process Accomplishments

Medical/Dental: A total of 3,240 medical screens were given to 2,428 children between 1973 and 1977. Of these children, 42% were in eight preschool day care centers (primarily ages four and five); 24% were in six after school day care (ages six to twelve); 34.5% were in three public schools (ages five to twelve); 50% had Medicaid cards, and 35% had an adult male in the home.

The medical screening team consisted of an R.N., a pediatrician, a records clerk, an LVN, a screening assistant and, at times, a lab technician.

The rate of problems referred (not including immunizations) varied from year-to-year and between groups of children, but for the most stable periods of screening there were 700 medical and dental referrals per 1,000 children

screened, but only 75 to 100 moderate to severe conditions (two-thirds dental) per 1,000 children screened that were not previously under care and that were satisfactorily treated (true problems either getting treatment or having treatment needs, but not at the current age). The list of conditions referred is attached at the end of this summary.

The false positives are to be expected in any screening program. They were the highest in ear problems, vision, orthopedic, and heart problems. However, false positives never accounted for more than 20% of the referrals. Other findings in the medical/dental aspects of the project were:

- The yield* was low on the TB screen and the urinalysis.
- The blood lead level testing turned up new cases in at least 1.2% of the initial screens of the preschool children, but had low yield on periodic screens and in the children over age six.
- In the first year, when case monitoring procedures were less well developed, only 65% of the referred problems were known to have shown for treatment. However, by taking the children directly to the physician's office, the percentage receiving treatment in the third year was 86%. The volume of problems and the need for parental consent precluded a 100% rate.
- The non-resolved problems were primarily ear problems (failed hearing test and otitis media). Since there was such a high rate of false positives, the staff justifiably gave them a low priority for follow-up.
- The immunization status for the preschool children was 61% known current for DPT(Diptheria, Pertussis, Tetanus) at the initial screen, and 75% current after the periodic screen. However, in public school children, only 10-20% were known current, and there was little improvement due to an

*the number of true positives per 1000 children screened

immunization policy given by the NCDCA medical advisory board of "only immunize when a record is available."

Developmental Screening and Treatment

- A culture-fair screening instrument for assessing a child's progress in Piagetian-based developmental milestones was developed and normed on the population of the day care center preschool children during the first year. The tasks were given in the major areas of language, visual motor, cognition, and memory for children ages 3-5.
- The instrument was administered by a "developmental team" of four persons, all with college training in early childhood education.
- Two hundred children were administered the instrument multiple times the first year,and during the project years 1974-75, and 1975-76, a total of 384 children had completed all four parts of the instrument at least once with the result that 21% had lags of six months or more (a lag is the difference between the child's developmental age as given by the instrument and the chronological age) in two or more areas of testing. Approximately 10% had lags in three or more areas, and 3.4% had problems in all four areas. A comparison of the instrument with the Denver Developmental Screening Test showed that the test identified the same children as having multiple problems, but gave more detailed indications of the precise problem in the areas of cognition and memory.
- Treatment for developmental problems was of two major types (the day care centers assigned a particular method were randomly assigned) (1) One-to-one attention for sixty hours over a three month period; (2) written recommendations for therapeutic activities were given to the

day care center teacher. Due to lack of treatment resources, a third group emerged who got no special intervention. For children getting tested prior to and after treatment, the sample sizes were small and standard deviations of the changes in the developmental lags were large, so no conclusive evidence could be presented about the effect of special intervention. Also, there was no control group outside day care. In terms of the sample mean lag reductions, the one-to-one intervention was slightly better than the written recommendations, but neither was any better than the quasi-control group.

- Parent involvement was attempted through the efforts of the developmental social worker, but participation was sporadic. Finally, in the last year, when parents could not participate by at least visiting the classroom, the child was dropped from treatment because the treatment was of little value without parental support and positive reinforcement of the work done by the developmental team.

Emotional Screening and Treatment

Due to the expensiveness of the National Child Day Care Association's existing Therapeutic Nursery School (TNS) and its long waiting list of children referred by day care center personnel, a screening instrument was developed and a roving teacher concept of emotional treatment emerged to be used in conjunction with a TNS. The children in the TNS were primarily hyperactive and aggressive, but a few were extremely withdrawn.

- The consulting psychiatrist and project staff developed a Freudian based emotional checklist of childhood behavior. This was administered by the therapeutic team of persons (non-psychologist or psychiatrist)

but with experience in TNS by a two to three day observation period of each classroom. Those scoring below average were further diagnosed by the consulting psychologist and psychiatrist. Approximately 10% of those in day care needed further attention. The primary therapy was getting the child to verbalize feelings, to improve self concept through showing that others love the child, and through the therapeutic social worker, to get the mother to reinforce the methods at home.

- The roving teacher was successfully used to visit each day care center at least two times per week, with the roving teacher acting as an assistant to the regular center teacher in focusing on and helping the more aggressive or withdrawn children.

- The centers with one-to-one developmental intervention got no special emotional therapeutic intervention by EPSDT staff. Pre- and post-test results of the emotional checklist showed no differential improvement in the proportion scoring low with or without the roving teacher; however, case studies of children with problems would lead one to believe that the maturation could not have taken place completely without intervention. (The day care environment itself may be sufficient to assist the children , but there was no control group outside day care).

Paraprofessional Training

The project conducted a very intensive training program for persons who were hired at the minimum wage (but with a high school degree). There were many good applicants, and within six weeks, these persons were performing very well as screening assistants, TNS assistants, and social work assistants. The didactic training was based upon specified learning objectives and the on-the-job orientation

assisted in that learning. The project director has completed the training manual describing that process.

Records

The maintenance of complete, accurate, and accessible medical, developmental, dental, and emotional records was a constant struggle. In a small sample study of the records, it was found that 80-90% of the records were complete for the most basic forms, but many other subsidiary forms were missing. It is recommended that one person (compulsive and bright) be hired for each five staff members performing service delivery just to maintain the records and paper flows.

Costs in 1975 Dollars

The direct personnel costs for personnel time spent by the medical team in screening was $18.64 per child screened. However, when considering the cost of space, supplies, supervision, records, etc., this amount should be doubled. Then to get the total cost of the screening, outreach, and case monitoring of referred problems, multiply that total by a factor of 1.75.

The dental screening took place at a private dentist's office which cost an additional $25 to $30 per child.

The treatment costs would have been approximately $60 per child screened if all treatment bills would have been submitted and paid by the project for medical and dental problems. However, since only one-half of the claims get submitted and paid, the treatment cost is only $30 per child screened.

Medicaid treatment profiles on 124 of the Medicaid children were studied and it was found that the monthly Medicaid treatment cost per child was not significantly different after the screen than before the screen. High cost, randomly occurring events (such as fractures, influenza, and ear problems)

obscured the differences in cost that may have been due to EPSDT screening. The monthly Medicaid cost averaged $17 per month prior to screening and $16 per month after screening, with medians of $7 and $6, and standard deviations of $33 and $30, respectively.

The developmental component (assuming screening and written recommendations to day care teachers) could be replicated for approximately $72 per child between ages three and five in the target population and the Emotional Component could be replicated for $64 per child in a day care target population.

The full cost of the entire program of medical, dental, developmental, and emotional component could be replicated for 8% of the total day care budget.

Costs of EPSDT could be reduced in this day care association by eliminating the urinalysis, TB, and periodic screen lead test, and by minimizing need for parent contact (i.e., getting all consent forms for screenings and non-surgical treatment signed at registration).

The cost of getting children into screening was only $8 per child (the projected cost that would provide necessary staff to get parental consent and accurate Medicaid billing numbers). This is one-half to one-fourth as much as it would cost to get the same children into a separate clinic for screening (according to results of the other EPSDT demonstrations in Contra Costa County, California and Dallas, Texas).

Recommendations

1. Day Care Associations can be a cost effective way of achieving over 80% participation in EPSDT for Medicaid eligible children in day care. However, the problem of what to do about non-Medicaid children also in day care must be dealt with. Centers with a high percentage of Medicaid children (60-70%) should be

contracted on a flat fee to cover the outreach, screening, and follow-up of Medicaid persons, making the fee high enough to screen all children, or perhaps a sliding scale may be used. A large staff is still required even when the children are available in one site because the parents must be contacted, transportation organized, and contact made with the medical community.

2. Developmental screening should be continued in EPSDT (especially in preschool children) on a basis in which the instrument used has a capability of selecting those children with the greatest lags in developmental areas of cognition, memory, visual motor, and language so that teachers and parents can best understand how to assist their child in creating appropriate learning environments. Continued study is needed as to how and which children can benefit from developmental intervention. Children who were in day care but had no special treatment seemed to have improved at the same rate as those with one-to-one intervention. Since there was no control group outside the day group, it is not known whether the stimulation provided by the day care tended to reduce the possibility of showing the differential effect of the treatment. Also, since the parent was aware of the child's problems, they may have made subtle changes that would help the child. The findings of this project indicate that more large scale studies are needed to determine the efficacy of treatment for such problems. Also, it should be pointed out that speech articulation and cleft palate were <u>not</u> the type of problems being addressed in developmental. These were considered as medical problems and referred accordingly.

3. Many emotional problems apparent in 5-10% of a day care population can be treated as well by a roving teacher (an experienced teacher under the supervision of a psychiatrist and psychologist) who spends time in the individual

classrooms as by bringing the problem children to a special classroom. However, a special classroom is still necessary for extremely hyperactive or withdrawn children.

4. The effectiveness of emotional treatment needs to be carefully studied in a project specifically designed to carry out an experimental and control (or quasi- control) group. The cases reviewed showed improvement in many children, but the overall group in emotional treatment improved at the same rate as those with minimal intervention.

5. Paraprofessional (high school graduates at minimum wage) should be trained by EPSDT projects and utilized for assisting in screening, case management, and, if in day care, developmental or emotional treatment.

6. Each screening center should be required to submit to the local and state EPSDT program manager an analysis of the yield on various screening tests. Whereas the vision and hearing (impedance bridge) testing and the physical and dental examinations produced high yields, the urinalysis and TB tests were of questionable value. The blood testing was borderline, but considered valuable. The analysis should also include a study of the laboratory results of blood from the same children sent to different laboratories, because the results were quite different when the project switched labs. These yields differ by target population.

7. The dental component of EPSDT requires a great deal of attention and flexibility of organization and funding. Moderate to severe dental caries is the single most frequent problem found in children of this age. Innovation is necessary to achieve low cost screening, prevention, and treatment.

8. Schools with a high density of Medicaid eligibles and without a strong health program should be a priority target for the EPSDT program. Conducting screening in the schools (for school age children) is much more cost effective than special clinics due to the drastically reduced cost of outreach when all children are screened at one location without need for home visiting.

9. Reduced cost of outreach, reduced no-show rate for appointments, and relative ease of contact for follow-up purposes result from linking EPSDT to day care and schools.

10. Additional developmental screening in the schools should be seriously questioned because in this project the teachers were already giving standardized achievement tests and knew the children who were in trouble. Diagnostics and treatment by an outside agency were found to be the most needed additional service.

11. Special focus is needed for EPSDT's responsibility in immunizing children. Immunization records are non-existent in some schools, clinics, etc., and if the parent cannot produce a record, special guidance to EPSDT screening teams is needed, directing them to immunize when in doubt. From a broader perspective, the nation must do something to standardize, computerize, or otherwise provide documentation of immunization status.

12. Periodic screens in the day care population are needed for at least two years in a row. After that, the value of periodics may be somewhat reduced, provided that a high rate of treatment occurred in the first two years. The original-periodic comparison is very difficult, however, because the screening methods and staff vary somewhat from year-to-year and this may cause a greater reduction than the fact that the child has been previously screened.

13. Innovative social and medical service projects should be funded for a minimum of five years. The organization and implementation of an EPSDT project requires a great deal of effort on the part of many people. When the evaluation component is included, even more patience and attention to detail is required, as are dedicated and flexible staff required. The four-year time frame of this project allowed the completion of many analyses that would not have been possible in a three-year project. An additional year designed for completing tasks begun at the end of the fourth year would have been useful and certain hypotheses that only became known after the project had stabilized could have been tested in a relatively short time. EPSDT experiment stations that can be assured of continued funding so that they could be constantly addressing new issues would be very useful to programmatic enhancement of the Child Health Delivery in the United States.

National Child Day Care Medical Findings

List of Problem Descriptions for Problems Referred from EPSDT Screening at NCDCA EPSDT Project, 1973 to 1977, for 1,462 Screens of 1,016 Pre-School Day Care Children and 1,778 Screens for 1,412 School Age Children which were Not False Positive. Both Pre-School and School Age Children

Description	Number
Positive TB Test	5
Cold Sores on Mouth	1
Athletes Foot	1
Chicken Pox	1
Ringworm on the scalp	1
Benign Nevus	1
Obese	49
Rapid Weight Gain	1
Positive Sickle Cell Test	208
Anemia due to low Hemoglobin	15
Borderline Anemia	17
VDRL reactive	1
Hypochromic red cells	2
Hyperactive	2
Quiet, apprehensive, submissive	4
Behavioral problem	1
Speech disorder	23
Developmental problem	3
Stuttering	1
Refractive Error	165
Cross-eyed	2
Non-convergence of eyes	2
Loopinal Refinal	1
Eye muscle imbalance	1
Double vision	2
Extropia	1
Conjunctivitis	5
Strabismus	5
Bilateral Blepharitis	1
Allergic Blepharitis	1
Eyelid Lags	1
Cataract	1
Eye Irritation	1
Tearing in eyes	2
Failed Hearing	252
Impacted Cerumen	36
Foreign object in the ear	2
Hyperemic T.M.S.	1
Growth on ear canal	1
Otitis media	3
Heart murmur	19
High blood pressure	1
Systolic murmur	14
Sinus Arrythmia	1
Nasal Congestion	29
URI	43
Tonsillitis	12
Mouth Breather	
Hypermic Tonsil	
Pharyngitis	6
Turbinates Boggy	2
Frequent URIs	1
Allergy	3
Wheezing	2
Productive cough	1
Allergic Rhinitis	2
Asthma	4
Dermatitis	1
Pustular Lesions on Face	
Children with Caries	698
Extractions needed	13
Teeth need cleaning	16
Chipped incisors	
Fractured tooth	2
Missing teeth	1
Diarrhea	
Umbilical Hernia	41
Inguinal Hernia	4
Phimosis	13
Meatal Stenosis	1
Urethral Posterior	1
Vulvitis	1

Description	Number
Rashes - severe	25
Ulcerated Elbow	1
Hypo-pigmentation	3
Impetigo	2
Severe acne	9
Atopic dermatitis	6
Sebaceous cyst	1
Eczema	6
Keloid Scar	1
Flat Feet	2
Hammer Toes	1
Knock Knees	2
Toes turn in	1
Moderate lordosis	1
Left shoulder high	2
Stoop shoulders	1
Spinal curvature	1
Bowlegs	1
Undescended testicle	5
Right cheek larger	1
Hematoma	1
Headaches	1
Frequent nosebleeds	3
Hoarseness	2
Stomach Problems (emotional)	1
Moles	1
Abnormal Urinalysis	3
Ketones in urine	1
Blood in urine	2
Thick ankles	1
Protein in urine	3
Blood and Protein in urine	1
Enuresis	3
High Blood lead level (3 were rated as moderate to severe)	10
Lacerations, burns, fractures	12
Ulcerated burned thigh	1
Blister on tongue	1
Burn on abdomen	1
Bruised buttocks	1
Strong body odor	1
Small for age	1

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The organization, continued funding, and coordination of a project such as the one evaluated in this report require the efforts of a great many persons in the D.C. Department of Human Resources, the National Child Day Care Association, and HEW. Those that interacted most with the evaluation team to whom our appreciation is extended includes:

Yvonne Ali, Project Director

Dr. Elizabeth Kramm, Project Officer/HEW

Dr. Helen Martz, Project Coordinator/HEW

Mrs. Joan Reeves, Department of Human Resources

Ms. Eloise Turner, Department of Human Resources

Francis LaRiviere, 1115 Grants/HEW

Thomas Taylor, Executive Director, NCDCA

CHAPTER 1

INTRODUCTION TO THE PROJECT AND EVALUATION METHODS

This is a report about the strengths, weaknesses, findings, and policy relevance of one of six demonstration projects funded by the Social and Rehabilitation Service (now Health Care Financing Administration) of the Department of Health, Education, and Welfare (DHEW) and evaluated by the Health Services Research Institute of The University of Texas Health Science Center at San Antonio (HSRI). This project was granted to the National Child Day Care Association through the Washington, D.C. Department of Human Resources under a 1115 grant and was basically funded for determining the techniques, costs, and effects of conducting the Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program in a comprehensive fashion including medical, dental, developmental, and emotional screening, diagnosis, and treatment when carried out in a day care setting.

This chapter will provide a brief summary of the historical background and organizational setting of the project, the role of the evaluation, and the organization of the report. The evaluation contains only a limited discussion of the methods of project implementation since these are discussed in detail in the project final report.*

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*Ali, Yvonne, The Implementation of Early and Periodic Screening, Diagnosis and Treatment in Child Day Care Centers and Bicentennial Expansion Final Report. Available from National Child Day Care Association, Washington, D.C.

Historical Background

The EPSDT Program guidelines were published in August, 1972 after several years of debate about the contents, and declared that state Medicaid programs should attempt to offer a program of screening, diagnosis, and treatment for a variety of medical, dental, developmental, and emotional problems.

Such tests suggested for the medical screen included the tests for hearing, vision, blood, lead, as well as urinalysis, tuberculosis testing, unclothed physical, and immunization status checks; but these guidelines were fairly vague concerning developmental and emotional testing and treatment. The EPSDT programs were then to assure that treatment was rendered for problems found.

By the middle of 1973, it was becoming clear that most states were having very little success in getting the Medicaid eligible children screened (1% to 2% of the eligibles per year), and difficulty getting the children to treatment. At the urging of several persons within DHEW (especially Dr. Helen Martz), it was decided that demonstration projects be awarded for the purpose of learning how to conduct an optimum EPSDT effort. Two particular questions that are relevant to this project were of concern:

1. Can EPSDT outreach (getting children to the screening), and case monitoring (getting children treated and rescreened) be accomplished by linking day care centers?

2. What are some ways and costs of dealing with the developmental and emotional aspects of the children seen at the time of screening, and could this be aided through linkages to a day care association?

As the project developed, other questions arose:

3. How to work with schools?

4. What are the possibilities of paraprofessional training and utilization of paraprofessional staff on an EPSDT project?

The data for these questions and more are presented in the chapters that follow, and the questions will be answered in the conclusion.

National Child Day Care Association

The National Child Day Care Association, under the leadership of Thomas C. Taylor, executive director, was organized in 1964 and was one of the first programs in the nation to start a full day Head Start Program.

National Child Day Care Association (NCDCA) provides day care services in Washington, D.C. Support comes through the District of Columbia Department of Human Resources (DHR) from the U.S. Department of Health, Education and Welfare, the United Planning Organization, Bureau of Education for the Handicapped, and the National Institute of Education. These funds go toward the operation of 19 preschool centers and six after-school centers.

The area served by NCDCA-EPSDT program is located in 14 day care centers in the Model Cities area of Washington, D.C. which had a population of 79,157 in 1970. Approximately 750 children were enrolled in 14 centers (eight non-Head Start preschool centers and six after school centers) originally chosen to participate in the EPSDT project.* Parents are primarily low-income, working people or students enrolled in institutions of higher learning. The racial makeup of the area was 91% Black and 9% White; the median family income was $6,612, and the median years of school, 9.9 years.

In addition to the day care centers (which included a limited nursing program), the NCDCA had already been operating a small therapeutic nursery program and some limited developmental assessment of children referred by teachers and center directors to a person trained in special education. The instrument originally used was developed by the special education department of NCDCA and used by other centers in the city. Funds were needed for continuation of these

*See Appendix A for the map of the area and the location of the centers.

programs and the day care association was concerned about an expanded and more organized medical screening component as well as the addition of dental screening and treatment. Children were required to have a physical prior to day care enrollment, but the thoroughness of this physical was questioned by the program.

One of the NCDCA board members, Mrs. Nellie Ottenburg, was aware of the EPSDT legislation and suggested to the Association that monies were available for continuing and expanding programs in the Association. A proposal was written and funded. Mrs. Yvonne Ali, one of the day care center directors, was chosen as the project director. Thus, an agency with a background in day care and an interest in expanding the quality of its program became involved. The initial broad goals and objectives were stated as follows:

1. To demonstrate an approach to an improved delivery system for EPSDT programs by coordinating EPSDT with an ongoing day care system.

2. To provide screening, diagnosis, and treatment of eligible children in the project target population.

3. To provide a program that would identify and assess preschool children with developmental problems and enable them to receive help while still enrolled in day care centers. This component is designed to help the child learn and profit from the regular day care classroom and later from the public school system. It will involve families in the treatment of their children and will train and involve regular day care staff in the treatment of children needing special help.

4. To design the program so as to achieve maximum effectiveness as a demonstration of a cost-effective, efficient delivery system for EPSDT services, and to provide a basis for evaluating the impact of this effort.

When the project became part of the American Bicentennial Showcase of Projects in 1976, additional goals were added to include school screening, feasibility study of developmental assessment and treatment in the schools, a paraprofessional training component, and a refined emotional screening and treatment component. These additional goals were stated as follows:

5. Arranging screening, diagnosis, and treatment of eligible children in the project target population in conjunction with the District of Columbia, Department of Human Resources, and selected D.C. public schools.

6. Providing a program that would identify, assess, and treat preschool children with developmental problems and involving families in the treatment of their children needing special help.

7. Coordinating a program with the D.C. public schools that would identify and assess children ages 6-14 with developmental problems and enable them to receive treatment while still in school; utilizing project, DHR, and public school resources, and involving parents in the treatment of their child.

8. Providing a program that would identify and assess preschool children with emotional problems, and determine which of the two models of treatment (the traditional medical model of the Therapeutic Nursery School or the Mainstream Model) best meets the needs of the individual child and be most cost-effective.

9. Designing and implementing a program that would train paraprofessionals to perform specific tasks in areas of screening and treatment of the EPSDT program and to develop a manual for the training of paraprofessionals.

10. Recruiting, organizing, and training a corps of volunteers who would work in several areas of the program.

To accomplish the goal of evaluating the program, the Health Services Research Institute at The University of Texas Health Science Center became involved.

Role of Health Services Research Institute

The staff of the Health Services Research Institute had been heavily involved in the evaluation of EPSDT programs since July 1972 in the states of New Jersey, Virginia, Iowa, Mississippi, Louisiana, California, Montana, and Utah and had published the Phase I evaluation and Phase II evaluation findings. These were circulated in an information memorandum published by the Medical Services Administration. HSRI had been asked to develop a common data base for evaluation of the medical aspects of the EPSDT demonstrations and then proceed to obtain contracts from each project for evaluation for the common data base as well as the evaluation of the unique aspects of the project. A

contract was negotiated, forms developed, and an on-site evaluator (Dr. James Ballard, Ph.D., Psychologist) hired to assist in representing HSRI on-site and developing data collection procedures.

The HSRI took Goal 4 seriously and set out to determine ways of evaluating the impact and effectiveness of each goal. This required a new set of forms, including one which combined information needed by other portions of day care and common data base information into a single intake form (see Record System Appendix for the description of the forms), a new medical screening form, and the medical problem sheets.

The on-site evaluator had concerns about the existing developmental screen because developmental age was assigned on the basis of only a single question or task, and there was little apparent relation between the questions and concepts children should have (such as seriation, conservation, etc.) at certain ages. Since it was decided that the only way to evaluate the developmental treatment component was on pre-test, post-test design with alternative treatment modalities, it became clear that unless instrumentation was available, no statements could be made. It was decided that the on-site evaluator would assist the project in the instrument development process. The on-site evaluator also hired a records assistant to ensure that forms were completed and mailed. The need for an on-site evaluator in such a project is absolutely essential for the necessary daily liaison that is needed between researchers and the service delivery staff.

This report represents the results of data analysis performed by the HSRI staff with input from the project director and the on-site evaluator. Each chapter summarizes the major program findings and statistical results for the major project components. Therefore, Chapter 2 discusses the medical program

and findings; Chapter 3 discusses the developmental program and findings; Chapter 4 analyzes the emotional component; Chapter 5 presents the results of evaluation results of special aspects of the program, such as the training component and the volunteer effort and Chapter 6 discusses the costs of the service delivery program and presents the available data of the impact on Medicaid costs. Finally, Chapter 7 provides the summary, conclusions, and recommendations.

CHAPTER 2

MEDICAL AND DENTAL SCREENING

Introduction--The Medical Screening Procedures and History

The National Child Day Care Association EPSDT program "medical team" consisting of a nurse, a nurses aide, a medical social worker, a records clerk, and a part-time DHR physician was responsible for the medical and dental screening, diagnosis and treatment.

This chapter presents a brief discussion of the screening procedures and the children involved, and then continues with the presentation of data. The results presented include the volume of screening activity, the indicators of previous access to the service, the degree of receipt of screening procedures, the rates of positive findings, the seriousness and severity of the conditions found, the rate of problems getting treatment, the problem resolution status, and the immunization results.

When the project was originally funded, the concept for medical screening was for the day care staff to act in a coordinating role to get children (in groups) into existing clinics of the Department of Human Resources (DHR) for screening and then to provide follow-up. However, after observing the lengthy waiting time and less than desirable facilities for screening (sick clinic operating at the same time), and due to difficulties in making adequate transportation arrangements, it was decided to conduct screening at the NCDCA EPSDT office site. The DHR agreed to provide a physician to conduct the physical examinations. The typical school approach is to conduct monophasic screening (vision one day, hearing another, etc.); so this was tried during the first year

of screening because it was felt that several tests would be too difficult for the children to handle at one time. However, children had to be transported multiple times to the central EPSDT office for the screen, day care schedules were disrupted, and it became impossible to accumulate and accurately maintain a record which described the results of screening. Accordingly, the medical screening was made into a two-step procedure (lab work one day, and everything else two days later), with the exception of dental screening. A dentist was required by DHR to conduct the screening. Special arrangments had to be made (at first with Howard University dental students, and later with private practitioners) for dental examinations. The screening then became a three-step process.

The forms used by the project included a screening sheet, a problem sheet, and an intake form for data processing. These can be seen in the records system discussion of Appendix B. In addition, the screening results were recorded in the day care center's charts and the DHR billing forms when the child was eligible for Medicaid.

The first problem was that obtaining parental permission for screening and the correct Medicaid numbers was much more time consuming than originally expected because of difficulty in locating the mother and talking to her in person. The parent was not always the one who picked up the children at the day care center and was at work during regular working hours. The other major problem was the lab testing. The lab work (such as urinalysis, lead, hematocrit, etc.) was conducted by a contract lab and there was difficulty with rapid return of information and a problem with reliability of the results.

An innovation was the use of the acoustic impedance meter for testing of hearing. The high level of false positives resulting from screening using the

audiometer and volunteers from the Washington Hearing and Speech Society led to the adoption of the impedance bridge which has a small earphone (similar to those on transistor radios) that is placed in the ear and sound waves are bounced off the ear drum. The use of this machine not only saved a great deal of time (the test can be done in one to two minutes by a trained paraprofessional), but also reduced the number of false positives.

The medical screen included an unclothed physical examination given by a pediatrician, vision test using the Snellen E-Chart*, hearing test with the impedance bridge, venipuncture blood sample for lab tests which included CBC, hematocrit, hemoglobin, lead, and sickle cell (with serology only if the child was considered sexually active); urinalysis, measurements and vital signs. Since the children were sent to the dentist for screening, this was probably the most complete screen done anywhere in the country.

The developmental portion of the screen was done as a separate program and, therefore, not a part of the general screen, except as the pediatrician would notice speech difficulty or problems with fine or gross motor coordination.

The physical examination included assessment of reported vital signs; posture, body proportions, gait; intelligibility, tone, and quality of speech; facial features, shape of head, hands, and feet; skin texture; inspection of eyelids, conjunctiva, cornea and iris, conjugate eye movement, pupillary reactions to light by ophtalmoscope; otoscopic examination of ear canals and ear drums; inspection of the palate, uvula, pharynx, dental ridge or oral

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*The definition of a positive finding is covered later in the chapter.

membranes and a check for obvious dental caries; inspection and palpation of neck and axilla; a check of the chest configuration and respiratory movements; auscultation of heart rate for rhythm, tone, murmurs; a check that temporal pulses were palpable and equal; a palpation of abdomen, search for masses; a check of the genitals for size, shape, and masses in labia or spermatic cords; observing muscle tone for strength and mobility of extremities; a check of the spine for lack of scoliosis when observed in flexion; and an observation of fine motor coordination.

There were three major location groupings of children: preschool, after school day care, and public schools. The preschool were children in eight day care centers funded by DHR and other agencies and ranged from 2 to 6 years of age (with 90% ages 4 and 5). The after school day care involved programs which worked with children ages 5 to 14 (with 88% between 6 and 12) whose mothers worked between the hours of 3:30 and 6:00 p.m. and, therefore, needed a place for their children while at work. The public school children ranged from age 4 to 14 (with 88% between 5 and 12). Whereas the day care children were brought to the screening center, the project staff went to the public schools to conduct screening. The schools in the Model Cities area that were selected did not have existing health programs. This screening didn't start until late in the school year of 1976 and, therefore, only one full year of public school screening was available. Details about the rates of positive findings, the seriousness and severity of the conditions, the rates of false positives, the rate of problems getting treatment, the problem resolution status, and the immunization results will be given next. Other details about the screening are given in the project's final report.

Volume of Screening

During the four project years (a project year is from September to August) from 1973 to 1976, a total of 1,462 physical examinations and associated screening procedures were given to preschool children, 864 screens were given to after school children, and 914 screens were given to public school children. A total of 2,428 different children were involved (1,016 preschool, 572 after school, and 840 public school) as shown here:

	Preschool	After School	Public School
Original Screens	1,016	572	840
Periodic Screens	446	292	74

This gives a total of 608 screens per year for the first two years and 1,013 screens per year for the second two years. The volume of 608 screens per year in 1973 and 1974 represented more than one month's total screening activity in the Washington, D.C. EPSDT program at that time. DHR screening averaged 592 screens per month (including the NCDCA screens) between September 1973 and June 1975 according to reports received at DHR offices.

Of the preschool and after school children given original screens and having an intake sheet completed and on file at HSRI showing family and child background data, 52% were male and 35% had an adult male in the home; 93% had an adult female in the home, and 20% had a grandparent in the home. Medicaid was listed as the primary source of medical payments for 55% of the children. This indicates that such day care associations are excellent places to find a large number of Medicaid children in one place. According to reports of the staff after trying to get parental permission for screening, many more mothers would be eligible for Medicaid if they could have some assistance in negotiating

the bureaucracy involved. A typical Medicaid agency cannot pay for non-Medicaid children who are screened, but this project obtained a waiver to be able to use demonstration funds to screen all children in the centers. The relative ease with which the children were screened, once methods were worked out for getting parental permission without extensive home visiting and once the day care association center teachers accepted the philosophy of screening, means that considerable outreach costs could be saved by giving local EPSDT units sufficient flexibility to contract with day care associations to do screening for all Medicaid children in the association at the same fee as would be awarded to an organization doing and charging full costs for outreach, screening, and follow-up for EPSDT eligibles only. Perhaps then, the Day Care Association could charge a sliding scale or get special funds for assisting in the screening and treatment of the non-Medicaid children. However, local EPSDT units must have the flexibility to contract with such organizations if the objective is to screen, diagnose, and treat as many children as possible.

As will be pointed out in the Cost Chapter, the fee paid by DHR for screening only would be insufficient to encourage the Day Care Association to continue such activity for all the children (or for that matter, even the Medicaid children alone!)

Previous Screening of the Children

The NCDCA had a policy that children were supposed to obtain a physical prior to day care entry, but the extent to which this was accomplished is questionable, given the answers of the parents when asked at the time of intake into the program. Table 2.1 shows that the percentage of children with intake forms (filled out prior to the original screen) having any one screening procedure in the 12 months prior

to screen was approximately 25%, with the public school children least likely to have reported a previous examination. The percentage of children getting all procedures included in the medical portion of the screen was only 5.6%. If the hearing, vision, and physical are considered sufficient for a complete assessment, then 13% had been previously assessed in these areas.

Very few children (4 to 5% of the preschool and 20 to 30% of the school age children) had been to a dentist. When dental screening is included as a required procedure of the entire screening package, fewer than 1% of the preschool children and approximately 20% of the school age children had previously received a complete screen. Table 2.2 shows the percentage of children who, according to mothers reporting, had utilized various health care resources during the year prior to screening.

Degree of Screening Completion

The difficulties involved with monophasic screening were discussed in the introduction to this chapter. These can best be illustrated by Table 2.3, which shows the percentage of children screened that did not receive required screening procedures. In order to control for factors of age differences among the preschool children, only the four to six year olds were used. The children screened during the first year were most likely to miss out on the dental screen, the TB test, and the urinalysis. The probability of a child not receiving any given procedure was greatly reduced in succeeding years (for dental, the probability of not getting screened dropped from .25 down to .034). There will always be a certain percentage (4 to 5%) who will not get a required procedure, but the project found that the multiphasic approach kept this problem to a minimum.

Description of Problems Found

Problems found in screening were individually documented on a problem sheet. Before continuing with the discussion of the positive findings, false positives, treatment rates, etc., it may be helpful to review the type of problem descriptions for problems that were referred. The problem description written on the form for those problems that were later found to be a true problem (not false positive and not an error in coding) are shown in Figure 2.1. Since 2,428 children between the ages of 3 and 14 were screened at least once, the number of such problems divided by 2.5 would give a good idea of the rate per 1,000 children prevalent in four years of preschool and after school day care screening and one and one-forth years of public school screening. The following continues with a discussion of the way in which these were found.

Positive Findings

There were 1,843 positive* findings (according to the results on the screening sheets) out of 2,413 original screens in all age groups, giving a rate of

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*The positive findings were defined by the following criteria on the various screening procedures:

Blood:	Hematocrit of 30 percent or lower
Hemoglobin:	Below 11gm/100ml or greater or equal to 15
Serology:	VDRL was used for children over age 12 or otherwise suspected of sexual encounter
Lead:	Blood level greater than 30 micrograms per 100 ml
Sickle Cell:	Screen for both anemia and trait by hemoglobin electrophoresis
Urinalysis:	Bili-Labstix test for ph and presence of protein, glucose, ketones, bilirubin, and blood was used. Positive = ph $\geq$ 7 = any presence of protein, glucose, etc.

If blood was present, there was an immediate referral, otherwise another sample was taken for lab analysis.

Tuberculin Testing:	Tine Test - positive if there is at least one swollen papule of 2 mm in size.
Vision:	20/40 for both eyes
Hearing:	VASC audiometer reading of $\geq$ 20 db hearing loss. Impedance meter was also used.

TABLE 2.1

Percentage of Children in Preschool Centers,
After School Centers and Public Schools having Complete Intake Forms
Who Received Medical Tests
12 Months Prior to Screening

Previous Check in Past 12 Months for:	N = 667 Pre-School	N = 784 Public School	N = 90 After School	N = 1,541 Total
Hearing	36.4%	12.0%	24.4%	23.4%
Vision	33.7%	13.6%	25.6%	23.2%
Lab Work	45.7%	9.9%	10.0%	25.5%
Unclothed Exam.	40.3%	12.9%	24.4%	25.6%
Lead	44.8%	7.1%	8.9%	23.6%
Sickle Cell	48.7%	9.6%	22.2%	27.5%
School Physical	13.8%	0	18.9%	7.0%
Percent with all Steps*	10.2%	2.4%	3.3%	5.6%
Percent with Hearing, Vision, & School or Unclothed Physical	21.0%	4.7%	20.0%	12.7%
Percent Healthy** in mother's opinion	81.7%	85.67%	89.5%	84.0%

*Hearing, vision, lead, lab, unclothed examination or school physical, sickle cell.

**As compared to minor problems, frequency sick, handicapped.

.764 findings per screen. An original screen (as distinct from a periodic re-screen) is the first screen that was given by the project. A positive finding means that when a child was given a particular screening procedure, the result was outside the normal range for that test. Table 2.4 shows the percent of all children given the physical examination portion of the screen that had a positive finding on each particular procedure. The table shows the percentage of children with positive findings for each major location for the original screens. The percent of children with problems on the dental examination* portion of the original screen varied from 11% in the public school to 40% in the after school day care centers, although there may be a reporting anomalie since the original screen findings on dental went from 51% in 1973 down to 11.17% in 1976. Also, there was probably under-reporting of findings in the later years of screening because the dentist may have screened the child and billed for the screening and treatment, but the project records clerk may not have recorded the results on the screening sheet since it was separate from the medical screening process and decision making.

Hearing problems were higher in the public school group (16% vs. 10% in the day care), but ENT problems were also greater.

Vision problems were higher in the after school day care (11% vs. 6% in preschool and public school).

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*The number of children given the physical examination portion was used as the denominator instead of the number receiving each procedure because percentage rates of findings for procedures given to only a few children (such as "other physical") who needed the test would be distorted. Also, space is saved in the charts if only one number of children is given for each grouping of children. Detailed tables of the rates of positive findings for just individuals given the tests are shown in Appendix C.

Figure 2.1

List of Problem Descriptions for Problems Referred from EPSDT Screening at NCDCA EPSDT Project, 1973 to 1977, for 1,462 Screens of 1,016 Pre-School Day Care Children and 1,778 Screens for 1,412 School Age Children which were Not False Positive. Both Pre-School and School Age Children

Description	Number
Positive TB Test	5
Cold Sores on Mouth	1
Athletes Foot	1
Chicken Pox	1
Ringworm on the scalp	1
Benign Nevus	1
Obese	49
Rapid Weight Gain	1
Positive Sickle Cell Test	208
Anemia due to low Hemoglobin	15
Borderline Anemia	17
VDRL reactive	1
Hypochromic red cells	2
Hyperactive	2
Quiet, apprehensive, submissive	4
Behavioral problem	1
Speech disorder	23
Developmental problem	3
Stuttering	1
Refractive Error	165
Cross-eyed	2
Non-convergence of eyes	2
Loopinal Refinal	1
Eye muscle imbalance	1
Double vision	2
Extropia	1
Conjunctivitis	5
Strabismus	5
Bilateral Blepharitis	1
Allergic Blepharitis	1
Eyelid Lags	1
Cataract	1
Eye Irritation	1
Tearing in eyes	2
Failed Hearing	252
Impacted Cerumen	36
Foreign object in the ear	2
Hyperemic T.M.S.	1
Growth on ear canal	1
Otitis media	3
Heart murmur	19
High blood pressure	1
Systolic murmur	14
Sinus Arrythmia	1
Nasal Congestion	29
URI	43
Tonsillitis	12
Mouth Breather	
Hypermic Tonsil	
Pharyngitis	6
Turbinates Boggy	2
Frequent URIs	1
Allergy	3
Wheezing	2
Productive cough	1
Allergic Rhinitis	2
Asthma	4
Dermatitis	1
Pustular Lesions on Face	
Children with Caries	698
Extractions needed	13
Teeth need cleaning	16
Chipped incisors	
Fractured tooth	2
Missing teeth	1
Diarrhea	
Umbilical Hernia	41
Inguinal Hernia	4
Phimosis	13
Meatal Stenosis	1
Urethral Posterior	1
Vulvitis	1

Description	Number
Rashes - severe	25
Ulcerated Elbow	1
Hypo-pigmentation	3
Impetigo	2
Severe acne	9
Atopic dermatitis	6
Sebaceous cyst	1
Eczema	6
Keloid Scar	1
Flat Feet	2
Hammer Toes	1
Knock Knees	2
Toes turn in	1
Moderate lordosis	1
Left shoulder high	2
Stoop shoulders	1
Spinal curvature	1
Bowlegs	1
Undescended testicle	5
Right cheek larger	1
Hematoma	1
Headaches	1
Frequent nosebleeds	3
Hoarseness	2
Stomach Problems (emotional)	1
Moles	1
Abnormal Urinalysis	3
Ketones in urine	1
Blood in urine	2
Thick ankles	1
Protein in urine	3
Blood and Protein in urine	1
Enuresis	3
High Blood lead level (3 were rated as moderate to severe)	10
Lacerations, burns, fractures	12
Ulcerated burned thigh	1
Blister on tongue	1
Burn on abdomen	1
Bruised buttocks	1
Strong body odor	1
Small for age	1

Table 2.2

Percentage of Children in each Location with Intake Forms that had Parent Reported Utilization of Alternate Sources of Medical and Dental Care

Utilization Category	PERCENTAGE HAVING ONE OR MORE VISITS FOR UTILIZATION PURPOSE IN THE YEAR PRIOR TO SCREENING		
	Preschool	School	After School
Well child checkup	27.9%	-*	5.6%
Private Physician Checkup	15.8%	-	3.3%
Outpatient Clinic Checkup	27.3%	-	3.3%
Dentist Checkup	5.8%	12.0%	2.2%
Optometrist Checkup	3.0%	-	0
Physician Sick Visit	7.6%	20.2%	3.3%
Outpatient Clinic Sick Visit	7.9%	-	0
Emergency Room Visit	14.8%		3.3%
Dental Sick Visit	1.2%	17.6%	1.1%
Inpatient Admission	1.6%	14.9%	-

*Indicates that data not reported in a similar fashion.

TABLE 2.3

Percentage of Total Preschool Children (ages 4-6) Screened (Original Screens) each Year that did not Receive the Required Screening Procedure (Original Screens)

Time Period	8/73-7/74	8/74-7/75	8/75-7/76	8/76-7/77
No. Screened	413	148	142	95
Measurement and Vital Signs	0.2%	0.6%	0	0
EENT	0	1.4%	0	2.1%
Heart	0	0	0	0
Skin Problems	0	1.4%	0	0
Respiratory	0	0	0	0
Orthopedic	0	0	0	1.1%
Other Physical	0.2%	0.6%	0	0
Blood Work	4.8%	0.6%	4.9%	6.3%
Serology	0	0	0	0
Lead Test	5.1%	1.4%	3.5%	2.1%
Sickle Cell	4.8%	1.4%	7.0%	3.2%
UA Problems	9.4%	6.7%	6.3%	7.4%
TB Test	27.4%	9.5%	12.0%	15.8%
Hearing	5.1%	2.0%	6.3%	1.1%
Vision	4.4%	8.1%	7.7%	5.3%
Dental	25.4%	3.4%	0	0
Other Problems	0	0	0	0

TABLE 2.4

Comparison of Overall Percentage with Positive Findings in Original Screens in Pre-School Day Care, After-School Day Care, and Public School Children

Procedure	Pre-School	Day Care After School	Public School
No. Children	(1,007)	(565)	(841)
Measurements	0.5%	2.1%	3.9%
ENT	5.7%	3.9%	12.4%
Heart	1.2%	1.8%	1.4%
Skin	4.5%	3.7%	5.2%
Respiratory	1.1%	0.4%	1.3%
Orthopedic	0.9%	0.2%	2.7%**
Other Physical	4.2%	2.8%	9.0%
Blood	10.8%*	1.9%	1.2%
Serology	0.0%	0.2%	0.0%
Lead	2.4%	0.0%	0.0%
Sickle Cell	5.5%	2.8%	4.9%
Urinalysis	0.5%	0.5%	1.0%
Tuberculosis	0.2%	0.2%	0.5%
Hearing	9.9%	9.4%	16.4%
Vision	5.4%	10.8%	7.4%
Dental	18.8%	40.9%***	10.8%
Other	0.1%	0.0%	0.4%

*3.9% if omit first year

**Probably distorted by high rate 1st year (false positives); should be closer to 1%.

***Dental findings on after-school children steadily decline from 51% in 1973 to 11.1% in 1976.

No high blood-lead levels were reported in the school age children, but the preschool children had high levels in 2.4% of the children. As will be shown later, however, at least half of these were considered to be false positives upon further testing. In one case where there was effective preventive intervention, the mother was upset with the project because the health department required her to spend considerable sums of money to remove the lead paint and make the home a safer environment for the child.

The orthopedic rates of findings appeared to be higher in the public school. However, during the first year of public school screening, the person conducting the unclothed physical observed the poor posture habits of a large number of children and thought they may have orthopedic problems in the shoulder and back. However, upon diagnosis, it was found that the poor posture habits were "in style". The true rate of orthopedic conditions that require treatment probably approximate 1% of the population studied. The only other procedures with such small rates of findings were the urinalysis and the TB screen. Whereas, the orthopedic screen can be done quickly in combination with the unclothed physical, the urinalysis and TB test require an increased order of effort on the part of the screening team. The low rates of findings on each, without corresponding compelling cases of serious preventable or correctable problems being reported, means that the NCDCA and DHR should seriously question the need to continue the routine urinalysis and tine tests. Guidance from the health profession about alternative indicators of need for these tests would aid in determining which children need the tests. Perhaps if children from a target geographical area had reported cases of TB, then TB tests could be included. At the minimum, TB and urinalysis could be made optional for completing a screening package.

Screening Findings by Project Year - Original Screens

The screening team refined and revised its screening methods each year. The results of such changes can be seen in Table 2.5. It shows the percentage of children with positive findings for each school year (September through August) for children given the original screens. However, according to the age distribution, the two and three year old children receiving the "original" screens increased from 9.3% of total screened in 1973 to 51.7% in 1974. Since age is a major variable affecting the rate of findings for particular screening procedures, additional tables were prepared to control for age. Table 2.6 shows the percentage of positive findings for the four to six year old preschool children only. However, the major relationships presented below are shown to be true regardless of age. The major changes include the drop from 22% to 3% in the percentage of children with anemia found on the blood tests from the lab (from 27% to 3% for the four to six year olds). A new lab may have accounted for this much difference. It would be a good idea, based on this information, to send blood samples to alternate labs for comparison analyses. It also suggests a need for national quality control efforts in monitoring the rates of findings throughout the country for signals of screening procedures going astray.

The percentage of positive dental findings climbed during the second year when children were sent to dentists' offices for screening. The first year, dentists screened the children in the schools in addition to the oral inspection by the pediatrician. Not all the children got the dental screen during the first year, so the 18% of children getting a physical having a positive dental appears low. However, of the 261 children that did get screened, 28% were found to have problems. When children went to the dentist's office, the second year rate jumped to 42%. Additional (non-minor) problems were probably reported when the

TABLE 2.5

Percentage of Preschool Children with Positive Findings on Original Screens by School Year

Procedure	School Year			
	1973	1974	1975	1976
No. Children	(391)	(194)	(233)	(188)
Measurements	0.5%	0.5%	0.4%	0.5%
ENT	2.3%	7.2%	9.4%	6.4%
Heart	0.8%	0.5%	2.5%	1.1%
Skin	1.0%	5.2%	7.7%	6.9%
Respiratory	0.5%	1.0%	2.6%	0.5%
Orthopedic	1.0%	2.5%	0.4%	0.0%
Other Physical	1.5%	7.2%	8.2%	1.6%
Blood	21.7%	3.1%	5.2%	3.2%
Serology	0.0%	0.0%	0.0%	0.0%
Lead	4.8%	1.5%	0.9%	0.0%
Sickle Cell	5.9%	4.1%	3.0%	9.0%
Urinalysis	0.0%	0.0%	1.3%	1.1%
Tuberculosis	0.3%	0.0%	0.4%	0.0%
Hearing	7.2%	11.9%	12.9%	10.1%
Vision	9.5%	5.2%	2.6%	0.5%
Dental	18.7%*	41.8%	11.6%	4.3%
Other	0.3%	0.0%	0.0%	0.0%
Age Distribution				
% Age 2-3	9.3%	37.5%	48.0%	51.7%
% Age 4	42.6%	47.7%	42.5%	31.0%
% Age 5 or greater	48.1%	14.8%	9.5%	17.3%

*Only 261 children were screened by dentists; the percentage abnormal out of 261 was 28%.

TABLE 2.6

Percentage of 4-6 Year Old Preschool Children with Positive Findings on Original Screens by School Year

Time Period	8/73-7/74	8/74-7/75	8/75-7/76	8/76-7/77
No. Screened	413	148	142	95
Measurements and Vital Signs	-	-	0.7%	-
EENT	2.7%	1.4%	15.5%	6.3%
Skin Problems	1.2%	10.8%	7.8%	2.1%
Respiratory	0.2%	1.4%	7.8%	-
Orthopedic	1.0%	0.7%	7.8%	1.1%
Other Physical	0.2%	0.7%	16.9%	2.1%
Blood Work	27.1%	3.4%	6.3%	6.3%
Serology	-	-	-	-
Lead Test	6.5%	2.0%	-	-
Sickel Cell	7.8%	6.8%	4.2%	9.5%
UA Problems	-	-	0.7%	1.1%
TB Test	0.7%*	-	-	-
Hearing	10.4%	16.2%	18.3%	15.8%
Vision	14.3%	10.1%	2.8%	2.1%
Dental	23.0%**	50.7%	17.6%	2.1%
Other Problems	0.2%	-	-	-
Heart	1.2%	-	3.5%	-

*1.0% of those done

**30.8% of those done

dentist had the bitewing X-rays, etc. available for more careful analysis. The project created a "problem sheet" for each separate positive finding in the screening process. This sheet contained a space for indicating whether or not the problem was a mild, moderate, or severe case for that particular type of problem. Although not all problems were rated, the results of those that were rated among the preschool children in each year are shown as follows:

Year	No. of Problems with Seriousness Rating	Percent rated Moderate to Severe
1973	70	70%
1974	167	87%
1975	47	63%
1976	19	20%

as indicated by the high percentages rated moderate to severe, the referred problems were not minor cases of that problem during the first three years.

Comparisons between Original and Periodic Screening Positive Findings

Since the age of the child, screening method, as well as staff training and sensitivity to certain conditions have a substantial impact, it is difficult to study the differences between original and periodic screen results*. A review of the rates of findings on original versus periodic screens for each screening procedure for the three different locations of children (the table is Appendix C) shows that:

- Dental problems on the periodic screens were half the rate of problems reported on the originals for after school day care, BUT the same rate for preschool, and somewhat higher for public school children.

*Medicaid status was found to have no significant impact on the rate of referrals or the rate of treatment.

- Lead screening positives were lower for the preschool on periodic screens.
- Vision positives were fewer for each type of location on the periodic screen, especially in public schools.
- Even though hearing problems were reduced, the ENT type problems increased; so it is difficult to make a statement about the level of true hearing loss or ear problems.

The data shown in a later section in regard to the number of new and serious conditions brought under care each year will shed additional light on the value of periodic screening. It appears that at best, two years of the complete periodic screening is desirable. After that, the screener may want to become more selective or begin to emphasize faster, simpler, and more educational-preventive oriented screening.

The Seriousness of Problems Found

In order to determine the seriousness of the conditions found, the screening physician was asked to assess a subjective seriousness rating for each problem referred. This enables a more accurate description of the conditions found and of severity of problems. The following summarizes the general seriousness of problems in each group:

Severity of Conditions

	Preschool	After School	Public School
No. Problems	935	674	737
No. of Problems with a seriousness rating	650	457	398
Percentage of Rated Problems that were Moderate to Severe (3-5 on the 1-5 scale)	47.5%	60.8%	27.9%
Percentage of Total Problems that were Moderate to Severe (3-5 on the 1-5 scale)	33.0%	41.2%	15.1%

Since only 70% of the problems found in the day care centers (preschool and after school) and only 54% of those found in the public school children had a seriousness rating, it is difficult to summarize the precise level of seriousness. It is not known whether the rated problems were more or less serious than those not rated. Assuming that the rated problems and unrated problems were similar, 47.5% of the preschool problems, 60.8% of the after school problems, and 27.9% of public school problems were rated as moderate to severe. The lower limit on the percentage of problems that were moderate to severe is computed by assuming that all unrated problems were mild. Therefore, the number rated moderate to severe were divided by the total number of problems. This shows that a minimum of 33% of preschool problems, 41.2% of after school problems, and 15.1% of public school problems were relatively serious cases of the problem. Table 2.7 presents the seriousness of the four most frequent conditions found in each type of location and shows the percentage of each that were rated to be moderate to severe. The percentages are again shown for both total problems and rated problems--giving a lower and upper limit for the true percentage--since many problems were not assessed a rating. It can be concluded from Table 2.7 that the day care (both preschool and after school) tended to have the more serious cases of any condition. In the day care group, over one-half of the caries were considered to be moderate to severe; nearly half of the anemias were considered to be moderate to severe, 15 to 40% of the ear problems were moderate to severe, and vision problems were between 30 and 60%. The percentages of public school children problems classified as moderate to severe were approximately half of the percentages for day care.

Table 2.7

Percentage of Most Frequent Problems with a Rating of Moderate to Severe

Location of Children/ Problem type	# Problems	# Problems Rated	# rated Moderate to severe	Moderate to severe problems as Percentage of: Total Problems	Problems rated for Seriousness
Preschool					
Caries*	303	241	192	63.4%	79.7%
Anemia	178	138	17	9.6%	12.3%
Ears	144	54	21	14.5%	38.9%
Vision	72	33	19	26.4%	57.6%
After-school day care					
Caries	333	264	192	57.7%	72.7%
Ears/Hearing	107	43	17	15.9%	39.5%
Vision	90	49	21	23.3%	42.9%
Anemia	37	24	19	51.4%	79.2%
Public school					
Ears/Hearing	184	48	6	3.3%	12.5%
Caries	138	128	54	39.1%	42.2%
Vision	67	34	9	13.4%	26.5%
URI	56	46	7	12.5%	15.2%
**					

*Note that the preschool children had nearly 200 cases of 4+ caries (moderate to severe)
**Others of high frequency (≥ 30) included anemia, obesity, hernia.

Level of Previous Care for Problems Found

When each problem was found, the parents were contacted by the medical social worker or the project nurse to obtain a medical history and permission for treatment. At this time, the level of previous care was determined. This information was used to code the problems as one of the following:

1. New--previously unknown by the parent or teacher.
2. Previously known, but not under care.
3. Already known and under medical or dental care.

The overall results of such coding (referred to as "newness") are shown as follows:

Newness of Problems Found in Screening

Location of Children	# Problems	# of Problems with "Newness" Rated	% of Problems Rated that are Considered: New	Prev. Known No Care	Under Care
Pre-School Day Care	935	866	69%	24%	7%
After School Day Care	674	629	51%	35%	14%
Public School Day Care	737	674	57%	37%	6%

There was little difference between years, except that the first year of screening produced 89% new problems. Among the preschool children, those diagnostic conditions with over 25% already under care included upper respiratory infections and skin conditions. In none of the other major locations were there more than 25% under care when there were over 20 problems referred, but some problem categories with a very small number of problems in these groups of children (day care after school

and public school) had more than 25% under care. These included two of three non-refractive eye problems, one of two allergies, one of three cases of enuresis in the after school day care group, and four of eight allergy cases in the public school group. It appears, then, that very few (between 6 to 15%) of the problems found in screening at NCDCA were previously under care, so that the problem is doing more than just documenting problems already known.

The concepts of newness and seriousness will be combined with treatment results to present the complete picture of the types of conditions discovered and treated by the project as a result of screening. Before presenting these findings, however, the case monitoring and treatment aspects of the project will be presented.

The project utilized a very intensive form of case monitoring follow-up by getting parental permission for treatment, then actually taking the child to the diagnosis and treatment in the project station wagon. Arrangements were made with D.C. Children's Hospital concerning forms needed, obtaining block appointments, and immediate feedback about results. The only "slippage" in the receipt of treatment would occur in this environment when the medical team social worker or the nurse could not obtain parental permission or when the follow-up activities fell behind due to the generation of an unusually large number of referrals during a particular month. In addition, quarterly, the HSRI computer automatically produced a roster of names of children for whom no treatment or resolution data had been received. This system was not fully operational until the second project year, and it was not smoothly functioning nor fully understood by both the project and HSRI until the third year. The following shows the pattern of the rate of problems getting to treatment for each project year (shown for the preschool centers only to reduce variation due to factors other than changes occurring each year).

Percentage of Problems Referred Getting to Treatment
Or Diagnosis (Includes False Positives) by Year (Preschool only)

Year	No. Problems	No. Known to Have Received Treatment	% to Treatment
1973	288	187	65%
1974	271	200	74%
1975	221	191	86%
1976	159	114	72%

These percentages of problems getting to treatment are quite high, especially since only one-half of the children had Medicaid cards available and many of the problems were dental caries. During the first year, the project had difficulty obtaining dental services through routine DHR funding mechanisms, even for the Medicaid eligible children, because there was only one dentist in the entire Model Cities area who would take children. Also, the project was not staffed to handle the detailed work required to obtain permissions for treatment, arrange the appointments, and transport the correct children on the appropriate day. However, by the third year, the program was well staffed and able to get nearly 90% of the children to treatment. (This is considerably higher than the nationwide average reported by HSRI of 72% of problems referred in state programs and represents one of the advantages of working with a "captive" population). Note that the treatment rate dropped during the final year. The increased screening in the schools, and the winding down of the project resulted in insufficient resources to conduct complete follow-up.

The project staff went further than the "showing for treatment" criteria discussed above. They also determined, when possible, the resolution outcome of the problem in terms of the categories shown in Table 2.8. The table contains the percentage of problems referred for children in each location which had various

outcomes. Major points shown in the table will be presented here. Approximately 10% of problems were declared to be false-positive upon referral where the physician, dentist, or optometrist to whom the child was referred declared that there was not really any problem present. Another 5% in day care and 10% in public schools were said to have problems, but treatment was not advisable (e.g., innocent heart murmurs). Parents moving or being uncooperative in granting permission for treatment resulted in 20% of the problems with an unknown or unresolved status. "Still under treatment" meant that the child had been to the physician, but required ongoing care in the amelioration or care of the condition. Over one-half of all problems referred actually needed and received treatment beyond an office visit.

Detailed tables were prepared to show the resolution status for each type of problem. Rather than show the detailed tables, the results pertaining to an elaboration of Table 2.8 will be given here.

Ear problems were a larger portion (44%) of the "no resolution status" group in the day care than they were of the total problems referred from screening (16%) in day care for all locations of children. Sixty-four percent of the "non-resolution status" group in the public school children were ear problems, whereas ear problems were only 25% of the total problems in this group. Since the ear problems had over 30% false positives in each group, the follow-up staff may have felt that a lower tracking priority should be placed on the ear problems.

The overall 10% of problems being declared false positives (diagnostician said there was no problem) is indicative of a normally functioning screening program trying to ensure that no problem is missed. The problem categories with the highest rates of false positives in certain locations are shown in Table 2.9.

Table 2.8

Resolution Status of Problems Referred by Type of Center

Status of Problems Referred	Pre-School		After School		Public School	
No. Referred:	(935)		(665)		(738)	
	No.	%	No.	%	No.	%
Status Undetermined	46	5.2%	43	6.5%	45	6.1%
Condition Treated	489	52.3%	287	43.2%	332	45.0%
Still Under Treatment at Time of Follow-up	55	5.9%	43	6.5%	57	7.7%
Further Treatment not Advisable	49	5.2%	37	5.6%	74	10.0%
Treatment not Available	3	0.3%	9	1.4%	12	1.6%
Parent Moved	158	16.9%	134	20.2%	42	5.7%
Parent Uncooperative	16	1.7%	6	0.9%	93	12.6%
False Positive	100	10.7%	65	9.8%	79	10.7%
Erroneously Coded as Problem	19	2.0%	50	7.5%	4	0.5%
		100.0%		100.0%		100.0%
Percentage of Total Problems Getting to Treatment	$\frac{693}{916}$	= 76%	$\frac{432}{615}$	= 70%	$\frac{542}{734}$	= 74%
Status of True Positives						
No. and % of Problems						
No. of True Problems	767		522		581	
Treated or Under Treatment	544	70.9%	330	63.0%	389	67.0%
Treatment not Available	3	0.4%	9	1.7%	12	2.1%
Moved	158	20.6%	134	25.7%	42	7.2%
Uncooperative Parent	16	2.1%	6	1.1%	93	16.0%

TABLE 2.9

Percentage of Problems Found in Screening that were Declared to be False Positive

Problem Category	Location of Child: Pre-School N Problems	Pre-School % False Pos.	After School N	After School %	Public School N	Public School %
Ears/Hearing	143	30.19%*	104	35.6%	183	23.5%
Orthopedic	7	0	-	-	21	38.1%
Vision	70	38.6%	89	18%	67	10.3%
Heart	-	-	18	22%		
Enuresis	5	60%	3	0	4	25%
Speech Disorder	18	16.7%	3	0	10	0

*Highest in 1974.

The 20 to 30% false positives in ear and hearing problems are not unlikely, since a URI could easily temporarily block the child's ability to hear normally and then have resolved by the time the child reached the diagnostic visit.

The 38% of false positives in orthopedic screens during the first year of public school screening occurred when, as mentioned earlier in the chapter, the examiner mistook stylish posture habits as a possible problem. A refinement of the screen was in order and was accomplished effectively by the following year. The number of problems was too small or the results too variable from problem to problem to allow general conclusions to be drawn regarding other problem categories.

Four of the five enuresis problems reported were discovered in the third year among preschool children, but in that year, three of the four problems were false positives. Perhaps a particular staff member became sensitive to the problem and began considering the mothers' reports of the problem as serious enough to warrant referral. No problems of this kind were reported in the final year of the project among the preschool children.

In general, the rate of false positives was quite low, and when the rate became high, measures were taken to refine the screening criteria.

A similar type of problem is that situation wherein a diagnostician agrees that there is a problem and that the referral was probably appropriate for a screening program, but due to the minor nature of the problem or due to the stage of the child's development, no treatment is necessary at the present time. The most frequent conditions in this category included heart murmurs, vision problems, and hernias. On one hand, these may be bad because they waste the diagnostic and follow-up resources (at least $30 to $40 per case, including treatment and follow-up cost) and cause inordinate concern on the part of the parents;

but, on the other hand, just as for false positives, a certain number of such problems will be necessary in order to ensure that false negatives (those problems going undetected) are kept to a minimum. The important issue is to recognize that such problems will occur and an EPSDT program should take measures to:

1. Keep the rate of over-referrals under control--such methods as specially designed staff training, careful monitoring of the extent to which over-referral is occurring, by staff member or screener, if possible, and

2. carefully explain to the parents the nature of a screening program and the meaning of the innocent heart murmur or hernia to the child's future health and activity.

The project made maximum attempt to handle the problem because it was staffed adequately (medical social worker) for case monitoring, the staff was sensitive to the parents' feelings, and frequent in-service training workshops were conducted.

The "error in coding" resolution code was fairly high among the after school day care children. Most of these (86%) were caries that had been reported twice by mistake. The code was developed for this instance and for problems where the wrong person had been coded as having the problem. The computerized data system had results of screening, problems, and intake information accumulated for each child. This required that a name and number be placed on each screening, problem, and intake form. The child's identification number was composed of the day care center code and the child's number. Getting exactly the same number matched with the appropriate name was a constant problem and resulted in the problems being assigned to the wrong persons. When the project received a list of problems which had not been resolved, no record of a problem existed for that child, so it was declared to be an "error in coding".

If those problems that were erroneously coded are removed from the total number of problems for each location, there remain 916, 615, and 734 problems

in each location (pre, after, and public school, respectively). When the number of problems are added for children in each location which actually got to a treatment provider or a diagnostician (false positives included), the totals for each location are 693, 432, and 542, respectively. The percentages of total problems getting to treatment were then computed to be 76%, 70%, and 74%, respectively, as shown in the middle of Table 2.8.

Those problems for which no treatment was available were not included in the numerator of this percentage. As an expansion of the data shown in Table 2.8, the types of problems that were involved in each resolution were studied. The category of "no treatment available" included obesity, enuresis, and congenital defects, where the project was not aware of any possible treatment that would be helpful.

Follow-up

Follow-up was difficult during the first year of screening in the schools because the screening was not begun until the last month of school and, by the time staff were able to conduct follow-up activities, school was out and the children and parents were difficult to contact.

When the project staff tried to get screening going early in the school year, they found it to be highly disruptive of the regular classroom teachers' other planned activities. It was found helpful to thoroughly explain and discuss the screening procedures carefully to the school staff prior to arrival at the school so as to gain maximum cooperation for making the screening go smoothly. It is recommended by the medical team that screening be conducted primarily between October and February, if possible, to avoid disruption at the beginning of the year and allow sufficient time for follow-up at the end of the year.

In the case of uncooperative parents within the public schools, one-half of the problems involved ears and hearing. Since the rate of false positives was so high in ear and hearing problems, it is easy to understand the parents' reluctance to get treatment when nothing appeared to be wrong with the child. Ear problems were also highly represented (50%) in the group for which no resolution status was known because parents within the public school sector moved. The ear problems were the single major group of problems in which pre-school and after school children were uncooperative, but the family moving did not differentially affect the lack of treatment for a particular problem type. Perhaps a more timely (within one week of screening) follow-up activity would alleviate some of the problems caused by the parents' moving, but uncooperative parents should probably not be charged against the project activity in terms of the effectiveness of getting children to treatment. If the "uncooperative parents" was omitted, the percentage of school children getting treated or under care increases to 79% [389 treated - (581 true problems - 93 uncooperative parents =488)] in the public schools, rather than the 67% currently reported. The percentages of true problems getting treatment are somewhat understated because the ones with resolution status unknown were likely to have not needed treatment; the problem may have been self-limiting and the follow-up staff person may have decided that time was not available for the less serious problems.

The concepts of newness, seriousness, and of true problems getting to treatment will be combined in this section to give the complete picture of the extent to which access to a medical screen was obtained for children with relatively serious conditions not previously under care. Table 2.10 contains four sub-tables which describe the situation by location and year. It has been mentioned previously

Table 2.10
Rate per 1000 screens of problems found in screening
and specific descriptions of the types of problems and outcomes

A. Number screened by location and year
(both original and periodic screens)

Location \ Year	73-74	74-75	75-76	76-77
Pre School day care	395	756	352	341
After school day care	201	250	243	173
Public school	-	-	513	563

B. Rate of total problems referred per 1000 screens
(original and periodic)

	73	74	75	76
Pre-school	701.3	351.9	622.2	451.6
After-school day care	850.7	692.0	823.0	462.4
Public school	-	-	530.2	818.8

C.** Rate of moderate to severe problems that were not previously under care per 1000 screens (medical only shown in paren. i.e. w/o dental)

	73	74	75	76
Pre-school	78.5 (27.8)	123.8 (18.5)	68.2 (28.4)	8.8 (5.9)
After-school	228.9 (24.9)	216.0 (88.0)	78.2 (24.7)	11.6 (5.8)
Public school	-	-	50.7 (33.1)	37.3 (3.6)

D**. Rate of moderate to severe conditions that were not previously under care and were also satisfactorily treated*
(non-dental problems included in parenthesis)

	73	74	75	76
Pre-school	27.9 (17.8)	92.2 (4.0)	65.3 (25.5)	8.8 (5.9)
After-school	104.6 (12.8)	160.0 (68.0)	78.2 (24.7)	11.6 (5.8)
Public school	-	-	46.8 (27.3)	37.3 (3.6)

*Treatment completed, still under treatment, problem confirmed, but no treatment advisable or warranted.
**These rates understate the true number of problems (by 10-15%) because not all problem sheets had newness, seriousness, and resolution status completed.

that 1975-76 was the most representative year of what could be done under optimal staffing and training conditions. During that year, there was a rate of 622, 823, and 530 problems per 1,000 screens in preschool, after school day care, and public school locations. However, the rate of problems per 1,000 screens rated as moderate to severe and not previously under care was only 68.2, 78.2, and 50.7, respectively, with the non-dental problem rate being 28.4, 24.7, and 33.1. The rates of serious problems not previously under care that were satisfactorily treated (needed and received treatment) were correspondingly 25.5, 24.7, and 27.3 per 1,000 children screened. The latter rates are the ones important to the treatment aspects of the program and show that, in order to find those 20 to 30 problems in 1,000 children, quite a few other conditions (600 to 700) will have to be treated adequately in a preventive (early detection) framework. It would be helpful to study ways to isolate a similar number of children and problems without such extensive effort, although the care for minor problems may have been provided at some cost to society anyway. Although such analysis is beyond the scope of this report, some explanatory studies could be accomplished with the data base.

Immunization Status

An important preventive aspect of EPSDT is that since children are available for a screen, it is a chance to check and, if possible, update immunization status. The screening form contained two check squares for indicating the status of DPT (Diptheria, Pertusis, and Tetanus) and OPV (Polio, Measles, Mumps, and Rubella) at the time the child came in for the screening and when the child finished the screening. The project nurse was to check out all available reports (staff was supposed to get immunization records prior to the screens) and determine whether or not the child was "current for age" in immunizations. It took much thought to

define "current" for situations such as when the child started a series two years earlier, but didn't finish the series. Would a single immunization at the present time make the child "current"? Also, at first, the nurses would check the box as "current" before screen, but put no check for "current" after the screen, thinking that HSRI computer would know that anyone current before the screen would be current after the screen. Therefore, it was assumed in computer analysis that a check indicating "current before the screen" would imply a "current" status after the screen. The results of the analysis are presented in Tables 2.11 and 2.12 for original and periodic screens, respectively.

It appears that the preschool children were somewhat immunized (61%) when they came to the screen and an additional 5% were immunized at the time of screening, but the after school and public school children had a very poor record of known immunization status. The school had no record and the parents didn't know. The nursing staff, and even the medical advisory committee of the Day Care Association, interpreted the policy from DHR or Day Care as "no record, no shots" when records were not available. It should be pointed out that the children may have had a better immunization status than shown in these tables, but it could not be documented by records. The periodic screen results are shown on Table 2.11. The DPT, OPV, and Measles status was apparently brought up to 75% by the project activity for the preschool children, but the lack of records combined with the "no record, no shot" interpretation led to a 10% current rate in the after school centers and a 20 to 30% current rate for each area of immunization in the public school. If the policy of "no record, no shot" is truly the correct interpretation, it should be seriously reconsidered by the DHR in light of the findings presented here and the recommendations of the Center for Disease Control that it is better to over-immunize than to under-immunize.

TABLE 2.11

Immunization Status -- Originals Screens

	Pre-School					After-School					School		
	1973	1974	1975	1976	Total	1973	1974	1975	1976	Total	1975	1976	Total
DPT													
No. Screened	441	226	254	221	1142	284	198	113	69	664	382	459	841
% Current Before	50.3	71.7	74.0	57.5	61.2	18.0	5.1	13.3	18.8	13.4	13.6	22.7	18.5
% Current After	54.0	71.7	79.1	72.9	66.8	18.2	5.1	14.2	20.3	13.8	16.0	32.0	24.6
OPV													
No. Screened	441	226	254	221	1142	284	198	113	69	664	382	459	841
% Current Before	49.2	69.9	75.2	56.1	60.5	15.1	4.5	12.4	17.4	11.7	10.5	19.2	15.2
% Current After	51.9	70.4	80.7	71.5	65.8	15.5	5.1	15.0	18.8	12.6	13.1	31.8	23.2
Measles													
No. Screened	441	226	254	221	1142	284	198	113	69	664	382	459	841
% Current Before	66.0	69.0	78.7	72.4	70.7	17.6	7.1	12.4	17.4	13.5	43.7	45.5	44.5
% Current After	66.2	69.0	79.9	73.8	71.3	17.6	7.1	13.3	17.4	13.7	43.7	46.2	45.1
Mumps													
No. Screened	441	226	254	221	1142	284	198	113	69	664	382	459	841
% Current Before	49.9	58.0	73.6	68.8	60.5	12.7	4.0	9.7	15.9	9.9	19.9	34.4	27.8
% Current After	50.8	59.3	75.2	69.2	61.5	12.7	4.0	11.5	17.4	10.4	19.9	35.3	28.3
Rubella													
No. Screened	441	226	254	221	1142	284	198	113	69	664	382	459	841
% Current Before	58.0	60.2	76.4	71.9	65.3	13.4	5.6	11.5	15.9	11.0	29.3	40.1	35.2
% Current After	58.3	60.6	78.0	72.9	66.0	13.4	5.6	12.4	17.4	11.3	29.3	41.2	35.8

TABLE 2.12

Immunization Status -- Periodics Screens

	Pre-School					After-School					School		
	1973	1974	1975	1976	Total	1973	1974	1975	1976	Total	1975	1976	Total
DPT													
No. Screened		179	120	153	456		62	132	104	305		74	74
% Current Before		78.2	40.8	58.8	61.8		8.1	3.0	5.8	6.2		20.3	20.3
% Current After		78.8	72.5	73.9	75.4		8.1	5.3	6.7	7.5		27.0	27.0
OPV													
No. Screened	4	179	120	153	456	7	62	132	104	305		74	74
% Current Before	75.0	77.1	40.8	59.5	61.6	42.9	8.1	4.5	4.8	6.2		14.9	14.9
% Current After	75.0	77.7	73.3	73.2	75.0	42.9	8.1	6.8	6.7	7.9		28.4	28.4
Measles													
No. Screened	4	179	120	153	456	7	62	132	104	305		74	74
% Current Before	100	73.2	73.3	79.1	75.4	57.1	11.3	4.5	7.7	8.2		37.8	37.8
% Current After	100	73.2	76.7	79.7	76.5	57.1	11.3	5.3	7.7	8.5		37.8	37.8
Mumps													
No. Screened	4	179	120	153	456	7	62	132	104	305		74	74
% Current Before	50.0	48.0	68.3	78.4	63.6	42.9	4.8	2.3	4.8	4.6		18.9	18.9
% Current After	50.0	48.0	71.7	79.1	64.7	42.9	4.8	3.0	4.8	4.9		21.6	21.6
Rubella													
No. Screened	4	179	120	153	456	7	62	132	104	305		74	74
% Current Before	50.0	59.8	65.8	77.8	67.3	57.1	9.7	4.5	9.6	8.5		36.5	36.5
% Current After	50.0	59.8	68.3	78.4	68.2	57.1	9.7	5.3	9.6	8.9		36.5	36.5

However, it should be mentioned that the public schools chosen for screening were chosen because of the lack of good health resources in and near the school premises. Perhaps other schools would have better records, but further study is definitely indicated.

Staffing the Medical Screening

Table 2.13 shows the type of staff that performed each screening procedure according to the project coding on the screening sheet. It appears that the appropriate skill levels were used for most procedures for the purpose of controlling costs while maintaining maximum quality.

Toward the end of the project, a nurse practitioner was supplied by DHR to assist in the physical examination portion of the screening, and continued use is encouraged--especially where large numbers of children need to be screened in a fairly short time period (such as in the public schools) and the pediatrician can be available for counseling in the 10 to 15% of the cases where a second opinion is needed.

The dental screens were left off Table 2.13 because children were taken to the dentist from the second year of screening onward; but in addition, the medical team would also conduct an examination of the teeth for obvious caries. The coding for such screening as done by the M.D. was not consistent, so the data would sometimes show the M.D. doing the screen and sometimes the dentist, whereas both probably did the screening.

The dental screening being conducted by a dentist in a dentist's office makes good sense if regular dental care is not available, and if all children need their teeth cleaned, and over half of the children have caries that can be treated in one visit. However, it adds substantial expense to the outreach, as well as the

TABLE 2.13

Percentage of each Screening Procedure
done by a Particular Skill Level of Staff

PRE-SCHOOL

Procedure	N	Nurse	Nurse Aide	M.D.	Staff*	Dentist 5	Volunteer 6	Lab Tech 7	PNP** 8
Measurements & Vital Signs	1,421	17%	20%	9%				0.3%	-
Physical	1,413	-	-	98%					2%
Blood	1,232	40%	51%	3%				57%	
Urinalysis	1,282	12%	1%		34%		1%	2%	
TB Test	789	93%	42%	1%	1%			4%	
Hearing	1,210	1%			26%			30%	
Vision									

AFTER SCHOOL

Measurements & Vital Signs	825	29%	14%	1%	52%	0	3%	0	0
Physical	815			99%					1%
Blood	664	34%						66%	
Urinalysis	755	12%	49%		38%		2%	1%	
TB Test	479	97%	1%					1%	
Hearing	749	2%	49%		25%			24%	
Vision									

PUBLIC SCHOOL

Measurements & Vital Signs	907	5%	0	1%	82%		12%	0	1%
Physical	911			86%					14%
Blood	856	64%						36%	
Urinalysis	809	41%	6%		51%		2%		
TB Test	802	99%			1%				
Hearing	811	1%	79%		19%				
Vision									

*Staff indicates a paraprofessional medical team assistant trained to do the specific procedures or other EPSDT staff members that assisted in medical screening.

**Pediatric Nurse Practitioner from DHR.

screening component of the project, when less than half have caries that can be treated in one visit when there are limited funds for medical and dental screening and treatment. If, however, good dental care habits are helped by going to the dentist's office and the care can be regularized for the Medicaid children, then the long-run payoff may be worth the additional expense.

Case Examples

The following are examples of children in the program. They were obtained from staff interviews concerning the value of medical screening:

- The child was always feeling his food at lunch time. The teacher thought the child was very messy and would try to discipline him accordingly. In medical screening, it was found that he could not see. He needed and received glasses.

- Another child was "acting-out" much of the time. In medical screening, it was discovered that he was nearly blind (20/200 in both eyes) and had a foreign body in one ear, and impacted cerumen in the other. Once these were treated, his behavior problem disappeared.

- Another child had "teddy bear eyes" in his ears.

- A child had 10 very deep cavities. At first, he and his parents would not cooperate in dental treatment, but the social worker convinced the parents and child that unless the teeth were treated, the child would need a complete orthodontic reworking of the mouth.

- A four year old child had 14 cavities and was in pain. The child was treated at the Howard University Dental School.

- A four year old child had a severe hearing loss which was previously known, but not under care. The project took the child to the ENT clinic at Childrens' Hospital 10 times. Preferential seating and a hearing aid was recommended and received.

Conclusion

Medical Screening was conducted under nearly optimal conditions including complete lab work (lead, sickle cell, hemoglobin), physical by a pediatrician,

dental check by a dentist, in a "captive" population of a day care center. The monophasic screening resulted in low rates of screening completion. Combining as many screen steps as possible into one visit improved the rate of screening completion. The population consisted of preschool day care, after school day care, and public school children. The difference in ages accounted for the higher dental findings in the after school and public school children. Only 20% had previously received a physical comparable to the medical part of the screen and only 4.5% of the preschool children had previously been to the dentist. The rate of problems referred per 1,000 screens was 600 to 800 (varied by year and setting), but the documented moderate to severe cases of those problems not previously under care in the most representative year were shown to be 68.0 per 1,000 screens for preschool, 78.2 per 1,000 screens for after school day care, and 50.7 per 1,000 screens for public school, tapering off in the later years of screening due to the reduction in dental findings. Less than 15% of problems referred were previously known and under care.

The known false positives were only 11% of the total problems declared, but "unnecessary" referrals were as high as 20% of the problems if we count those problems that were confirmed by the diagnostician, but thought not to require treatment. The highest rate of false positives were in the areas of ear, vision, orthopedic and heart problems.

The rate of referrals getting treatment was high at 73.5% of 2,265 problems due to the intensive follow-up efforts of the project staff in which children were taken to treatment by the project staff after receiving the parent's permission. If false positives and "problems confirmed, but no treatment necessary" are removed, 67.5% of true problems were treated.

The weakest area of project performance was in documenting and improving the immunization status of the school-age children--although the problem may have been a policy of DHR understood by project staff to be "no record, no shot". The staffing of the screening team showed appropriate use of health manpower. Costs could possibly be reduced by utilizing a nurse practitioner rather than a pediatrician and providing dental screening at the schools rather than taking each child to the dentist.

The periodic screens resulted in a lower rate of positive findings in the lead and vision testing. Dental problems seemed to drop off after two periodic screens. It appeared that two periodic screens were necessary, but that additional periodic screens should be altered to be more educational rather than test oriented in nature in order to maximize the value of contact with the children.

Between 15 and 40% of the ear problems and 30 to 50% of the vision problems were moderate to severe in nature. It appears, then, that the EPSDT type of program can serve as a necessary method of assisting low income children to access the system for relatively severe cases of selected conditions uncovered in a preventive type screening program.

CHAPTER 3

DEVELOPMENTAL SCREENING AND TREATMENT

This chapter reports on two central features of the National Day Care Association's EPSDT Program--screening and treatment for developmental problems.

Developmental Screening

The Instrument Used for Developmental Screening

Early in the life of the EPSDT program, the project director and the on-site evaluator decided that a primary requirement for approaching relatively satisfactory screening results with respect to developmental problems was a culture-fair screening instrument. That is, there was felt to be a need for a screening device which reduced the risk of cultural bias against Black children served by the centers. The instrument that the Day Care Association had been using to assess children that were referred to the special education division of the association by the center directors did not appear to have an adequate number of items for each age range and each theoretical concept to accurately assess a developmental age. While it probably served as a useful instrument for recording specialist interpretations, it was not satisfactory for screening large numbers of children reliably and could not serve as an evaluation tool for measuring improvement in a short time period. Thus, a major effort of the project over the first year was to develop a developmental screening instrument.

The first step was to develop a 129 item instrument*. The theoretical construction of the test was based upon the work of Jean Piaget, who feels that children go through an invariant cognitive evolution in acquiring concepts and skills for preparing to solve problems and learning to read, write, and to communicate verbally, although they may reach certain milestones at different rates of speed. There is a mean age at which each milestone is reached. Only if a child is substantially behind his peers in reaching the milestone should the parent or preschool program become concerned and begin to build a larger experiential base for the child. Examples of such concepts would be conservation (establishing equalities, such as one pound is the same as sixteen ounces), seriation (ability to order things), and classification of events and objects.

The test was administered to a group of Black children enrolled in day care centers in Arlington, Virginia, in order to assess the wording of questions and refine an appropriate style of asking certain items in actual administration. Then the entire 129 item instrument was given to over 200 children in the Day Care Association EPSDT project. The children were grouped into six month chronological age groups, and when less than 80% of the group failed to successfully perform a specific item, that item was reordered to the age group in which 80% could pass the item. As a result, 27 items were dropped and many others were reordered. Then, in an effort to reduce time of administration and reduce item

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*Principal responsibility for the development of the rest lay with James Ballard, Ph.D. Some forms for the test were selected from established item forms (such as the digit span) and others were developed by the Developmental team and Dr. Ballard, so as to be as experience-free as possible. Further technical details on the test will be provided in the reports prepared by the program staff. Appendix D contains a copy of the items used in the DSA.

redundancy, the test was further reduced to 72 items and resulted in a test now designated as the Developmental Systems Analysis (DSA). The test was designed to assess development in four areas of functioning--language, visual motor, cognition, and memory--in children ranging in age from 2 1/2 years of age to 5 1/2 years of age. The DSA was designed so that no more than 20% of the children taking the test would show developmental delays. Developmental delay was defined as having lags of six months or more in two or more of the four developmental areas assessed. The DSA aimed to give a developmental age for each of the four areas covered by the test; whereas, in the first round of screening for norming purposes, each child was given the complete test, in subsequent testing the child was given increasingly difficult items until three in a row were missed. Then a developmental age was assigned. Thus, a child whose developmental age was six months or more under its chronological age for a particular area (cognition, language, visual motor, and hearing) was said to have a lag in that area. Any child with lags of six months or more in two of the areas was said to have a developmental delay.

This report will not dwell upon the instrument* except to point out that it was normed (the 102 item instrument, at least) on the population being served and is an instrument which will certainly undergo change as more results from wider populations are used. The important point is that, since it was developed in conjunction with the project staff, it represents ones best effort to quantify the parameters being considered when the staff deals with children they consider

*See Appendix E for a discussion of the comparison of the instrument to the Denver Developmental Screening Test (DDST). Since the instrument measures in greater detail the areas of cognition and memory, more children were shown to have lags on it than were on the DDST, but similar results were obtained in terms of the children who actually were low enough in several areas to require special intervention.

to have developmental lags. Other projects could use the instrument if norming were conducted at each different locality first.

Appendix F contains a list of suggested treatment activities provided to the teachers. The screeners were able to use the test to describe the tasks that would aid the child's development, such as working with clay, puzzles, repeating stories, matching games, digit spans, and many others.

Administering the Screening

Four staff members of the EPSDT project who had previous day care experience as well as extensive college courses in early childhood education, worked in pairs as developmental screening teams. Each team member administered two parts of the DSA for each child screened. The children were tested individually outside the classroom--mostly in the office of center directors and, on occasion, in hallways. Total administration time for the DSA was usually less than 20 minutes, however, children were only given two parts of the test at one sitting and received the other two sections later in the day. A check of the developmental ages resulting from each screen showed a similar distribution of ages for each of the individual screeners.

Results of the Developmental Screening

Since the developmental screening during the first year of the project was carried out in conjunction with the development of the DSA, the screening results for that year are not reported. During the second and third years with the project, 1974-1975 and 1975-1976, a total of 384 children completed all four parts of the DSA. The results of this testing were as follows:

Number and Percent of Children with Lags on DSA Pretest
(1974-75 and 1975-76)

	NUMBER OF AREAS WITH LAGS					
	None	One	Two	Three	Four	Total
Number of Children	225	78	44	24	13	384*
Percent	58.6	20.3	11.5	6.2	3.4	100
Percent Developmental Delays				21.1%		

*Number taking all parts of DSA

This distribution shows that almost 60% of the children had no lags of six months or more, and that only slightly more than 20% had lags in two or more of the developmental areas tested. This percentage is essentially identical to the limits the test makers had set for themselves and primarily represents problems of development requiring experiences the child had not been exposed to at home or during day care.

A problem emerged, however, when the DSA outcomes were examined by age. As the next table shows, there was a strong positive association between age and rates of delay. Four percent, or fewer of the children under 41 months of age had two or more lags, while well over 50% of those 60 months of age and over had delays.

Number and Percent of Children with Developmental Delays on Pretest by Age
(1974-75 and 1975-76)

	CHRONOLOGICAL AGE (in Months)					
	30-35	36-41	42-47	48-53	54-59	60-65
Number	30	73	86	90	43	13
Percent Developmental Delays	3.3%	4.1%	14.0%	35.6%	44.2%	53.8%

The rate of children scoring low enough to indicate a developmental delay in the oldest group is some 16 times greater than that of the youngest age group. Such an outcome results from one or both of two possibilities. First, developmental disabilities may well increase with age for some children; the second resides in the test construction and the norming procedure. Clarification must wait for further exploratory use and analysis of the DSA.

Developmental Treatment

A principal objective of this EPSDT demonstration was to undertake remedial treatment of children showing developmental difficulties. This section discusses the selection of children for treatment and the types of treatment offered.

Selection of Children for Developmental Treatment

As indicated above, children with lags of six months or more in two or more developmental areas were said to have developmental delays. Such children were declared in need of, and eligible for, admission into the developmental treatment program.

Before examining some of the results of the treatment effort, it should be pointed out that a number of children, particularly during the first half of the project, who did not meet this criterion were admitted to the treatment program. This has occurred in most projects of this nature with whom HSRI has been associated, but we were unable to verify precisely why this occurred. The project staff indicated that the teachers would refer children, even though the DSA showed the child to be developing normally, when a child was having difficulty in gross motor or personal-social relations which were measured by teachers. The Developmental Team was also seen as a resource for treatment of emotional problems, even though the child was developing normally in the areas of cognition, language, memory and visual motor.

In all, some 217 children spent some time in the various remedial modalities employed by the project; however, the results given below deal only with those children meeting the criterion of scoring low in two or more developmental areas, and then only those who receive both a pre- and post-test.

What Types of Developmental Treatment were Provided?

Two sorts of interventions were made with those children declared in need of developmental treatment. The first was called EPSDT Staff Intervention. In four of the centers randomly designated from the eight NCDCA centers, EPSDT staff members worked over a three month period for 30 minutes per day with each child who had been designated as having a developmental delay. This time was spent giving attention to those weaknesses identified in each child. The second type was Teacher Intervention. In the four remaining centers, the regular teaching staff carried out various remedial activities (recommended by the EPSDT Developmental Team) with each child in the classroom identified as having a developmental problem. For the most part, the remedial interventions were not rigidly specified and did not follow a specific treatment protocol for a given child.

Results of the Developmental Treatment

The attempt to assess the results of this effort was by no means a tightly designed plan to systematically monitor the regularity and preciseness of the "treatment"; moreover, the only available measure of possible effects was to repeat the DSA at the conclusion of treatment. This pre- or post-complete testing of all children in all centers was conducted approximately every six months. The purpose of this was to reassess the children in the day care center and in addition serve as pre- and post-testing for those children in treatment. Log

sheets were maintained by the project staff which showed that 1,373 tests were given as pre-tests. However, HSRI could only account for forms relating to 1,158 pre-tests in which 19.2% scored low (lag in two or more areas) with a range each year from 14 to 22% low. Only 731 post-tests could be found. Part of the problem centered around the problem of keeping the names matched with the right identification numbers, and the other problem was the high degree of absenteeism and moving that occurred throughout the Day Care Association. The analysis that follows is based upon the available pre- and post-test results for children who scored low on the pre-test and who were also post-tested. The experimental design does allow statements about the cost-effectiveness of one-to-one EPSDT teacher intervention, but does not allow a statement of the value of any intervention because there was no control group of children who were pre- and post-tested that were outside day care. At the outset, there was no intention to exclude from treatment those children who scored low on two or more parts of the DSA. However, as things turned out, 23 children who showed a developmental delay on the DSA were not designated for treatment--a fact not discovered until late in the program. This, in effect, created a quasi-control group, because the group could not be found to be significantly different from the rest in demographic characteristics.

The outcomes of the two treatment modalities and the "control" or "no treatment" group are given in the following table which describes the three groups on several characteristics, including the extent of reduction in number of lags between pre- and post-tests for the three groups.

As can be seen, the mean chronological age of the three groups was essentially identical, as was the mean number of pre-test lags, and the time between pre- and post-tests was essentially identical for all three groups. The results, however, show that children who received treatment of any kind had fewer

lags at post-test time and thus had a greater reduction in mean number of lags than those in the control group. Thus, it appears that children who evidenced a developmental delay at the time of the pre-test and received treatment were less likely to have a delay upon post-testing than were those who received no intervention, although one-way analysis of variance showed no significant difference ($p>.05$) if the groups are treated as a statistical sample rather than a statistical population.

Characteristics of Children in Treatment and Control Group
(1974-1977)

	Intervention		
	EPSDT Staff	Center Teacher	Quasi-Control (but still in day care)
Number of children	37	22	23
Mean chronological age at pretest (in months)	48.4	48.6	46.6
Mean number of pretest* lags per child	2.57	2.46	2.39
Mean number of lags on post-test	1.35	1.32	1.70

*A "lag" means six months or more delay in the areas of testing of language, cognition, memory, and visual motor. For example, a child with two lags may have scored a developmental age 6 months below his or her chronological age in both visual motor and memory.

Table 3.1 gives the scores of children with developmental delays and compares the test results among intervention types for each of the four test areas. The following measures of pre-test performance and treatment outcome, as measured by the DSA are displayed in Table 3.1:

1. Number in the group. This is the number of children that scored low in this particular area of developmental testing and received the type of intervention indicated and had both pre- and post-test scores available.

2. Percentage of children low in the area of testing in the pre-test that had an increased lag at the time of post-test and the percentage with a decreased lag.

3. Mean lag at the time of pre-test. This is the average number of months difference between chronological and developmental age at the time of the pre-test (standard deviation also given in parenthesis).

4. The mean change in the developmental age between the time of the pre- and the post-test.

5. The mean reduction in the months of lag (lag = difference between child's developmental and chronological age).

The general pattern of the results in Table 3.1 is that on any of the indices, the EPSDT staff intervention showed slightly better results than the teacher intervention although, in general, the differences are not statistically different to a significant degree due to the small sample size. In terms of the mean reduction in lag and the percentage of children with no lag at the time of post-test, the EPSDT staff intervention did better than the regular teachers. However, in all areas except cognition, the group with no special intervention did just as well as the EPSDT group. But, since there was no control group outside the Day Care Association, and since most children improved, it is difficult to say whether maturation was occurring without intervention, whether the general Day Care Association teachers would help to increase results in the test regardless of the recommendations for a given child, or whether the instrument picked up children

TABLE 3.1

Treatment Outcome by Area of Functions and the Type of Intervention with Two or More Lags Indexed by the DSA for Children with Both Pre and Post-Tests (Average of 6 Months between Pre and Post-Tests)

FUNCTION	TYPE OF INTERVENTION		
	EPSDT	Teacher	None
Language:			
Number	30	18	13
% with Decreased Lag (a)	80.0	66.7	100
% with Increased Lag (a)	20.0	16.7	0.0
% with No Lag (b)	53.3	50.0	69.2
Mean Lag (Months) (c)	9.97	8.8	12.13
(S.D.)	(3.5)	(2.7)	(5.5)
Developmental Age:			
Mean Change (Months) (d)	10.6	10.3	17.08
(S.D.)	(5.6)	(4.5)	(7.7)
Mean Lag Reduction (Months) (e)	4.5	4.11	10.23
(S.D.)	(5.6)	(5.3)	(6.5)
Visual-Motor:			
Number	17	10	12
% with Decreased Lag (a)	82.4	70.0	75.0
% with Increased Lag (a)	17.6	20.0	16.7
% with No Lag (b)	70.6	50.0	66.7
Mean Lag (Months) (c)	9.35	7.73	10.25
(S.D.)	(4.3)	(1.6)	(3.8)
Developmental Age:			
Mean Change (Months) (d)	11.95	10.8	12.0
(S.D.)	(6.6)	(5.5)	(6.3)
Mean Lag Reduction (Months) (e)	5.58	4.4	6.0
(S.D.)	(6.4)	(7.6)	(7.4)
Memory:			
Number	14	8	11
% with Decreased Lag (a)	64.3	37.5	63.6
% with Increased Lag (a)	28.6	50.0	9.1
% with No Lag (b)	42.9	12.5	45.5
Mean Lag (Months) (c)	8.53	10.75	9.36
(S.D.)	(2.1)	(2.6)	(2.3)
Developmental Age:			
Mean Change (Months) (d)	9.0	9.0	9.27
(S.D.)	(5.6)	(5.6)	(4.1)
Mean Lag Reduction (Months) (e)	2.64	1.62	4.1
(S.D.)	(5.6)	(5.6)	(4.3)
Cognition:			
Number	32	15	16
% with Decreased Lag (a)	78.1	73.3	62.5
% with Increased Lag (a)	18.8	26.7	31.3
% with No Lag (b)	65.6	46.7	50.0
Mean Lag (Months) (c)	10.27	9.94	10.44
(S.D.)	(3.8)	(4.0)	(4.9)
Developmental Age:			
Mean Change (Months) (d)	10.88	8.4	10.13
(S.D.)	(6.7)	(5.9)	(7.8)
Mean Lag Reduction (Months) (e)	4.9	2.1	3.25
(S.D.)	(6.4)	(6.1)	(7.1)

(a)=Months Lag (chronological age - developmental age) at Post-Test vs. Months Lag at Post-Test; (b)=at Post-Test; (c)=at Pre-Test; (d)=Developmental Age at Post-Test - Developmental Age at Pre-Test; (e)=Months Lag at Pre-Test - Months Lag at Post-Test.

who were randomly low on a particular day and the children performed better on the post-test. (The last reason is a particularly serious problem in testing and is sometimes referred to as "regression to the mean").

Variables other than treatment could affect the results. Not all were measured, but for those measured, a stepwise regression analysis was performed in which the dependent variable was the months of lag reduction for a particular area of testing, and independent variables allowed to enter the equation included: (1) lag at the time of pre-test; (2) chronological age at the time of pre-test; (3) teacher; (4) day care center; and (5) one of three treatment groups, where the center and treatment groups were entered as "dummy variables", either coded "1" for presence of that variable, or "0" for absence of that variable. The results shown in Table 3.2 indicate that:

1. The higher the lag at pre-test, the more the reduction in lag.

2. The higher the age, the less the reduction in lag.

3. For visual motor and memory, the group with teacher intervention had less of a lag reduction than the group with either one-to-one work or no intervention, but who were in day care, when controlling for age and pre-test lag.

The sample sizes were too small to make substantive statements about the true effect of treatment, since, when controlling for age and pre-test lag, the EPSDT staff intervention was no better than the quasi-control. In order to demonstrate the most impact, a future demonstration should apparently concentrate on working with younger children having larger lags*. The project staff felt that a major barrier was the extent to parent involvement. The part-time

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*However, this may only be becuase of instrumentation and not real treatment related gains.

TABLE 3.2

Regression Results of Developmental Treatment
(Standard Errors in Parenthesis)
Effect of Certain Variables on the Months Reduction in Lag

Dependent Variable	Cognition Lag Reduction	Language Lag Reduction	Visual-Motor Lag Reduction	Memory Lag Reduction
Constant	15.19	-1.63	20.57	9.6
Regression Coefficients for:				
Pre Lag (in Months)	+ .46 (.18)	0.59 (.19)	+ .80 (.24)	1.01 (.34)
Age (in Months)	- .32 (.14)	0	- .45 (.13)	- .31 (.13)
Teacher Treatment (in Months) 1=teacher, 0=other	0	0	- 5.79 (2.61)	- 3.4 (2.05)
Center:				
Phyllis Wheatley (in Months)	0	9.64 (3.07)	0	-
Lincoln Temple (in Months)	0	0	0	3.3 (1.85)
Number of Observations:	45	39	28	31
Coefficient of Determination:	0.19	0.33	.51	.39
F Degrees of Freedom	2,42	2,36	3,24	4,26
F Value	4.84	8.99	8.3	4.2
Means in Months:				
Lag Reduction	4.2 (.9)	5.3 (1.0)	4.7 (1.2)	2.7 (.9)
Pre Lag	10.4 (1.6)	10.5 (0.7)	9.5 (0.7)	9.2 (.7)
Age	50.1 (0.9)	-	49.8 (1.5)	52.1 (1.1)
Proportion in:				
Teacher Treatment	-	-	21.4%	19%
Phyllis Wheatley Center	-	7.7%	-	-
Lincoln Temple Center	-	-	-	22%

developmental social worker was not able, at times, to garner the continued interest of the parents for children who were in the worst shape. During the final year of the project, parents were required to meet with the EPSDT staff a certain number of times or else the child would be dropped from the treatment. Four out of the last twenty-five children in treatment were dropped from treatment for this reason. Programs such as the developmental component of the project described here, as well as the emotional component, always leave evaluators with the uneasy feeling that the evaluation instruments may not be measuring the true effects of attention paid to a child which may spark an interest or contribute to a better self-concept and which, in turn, can make great differences in behavior (if not just school performance) ten to fifteen years later. A couple of examples will suffice. A male child, whose mother was age 17, was in an auto accident at age 13 months. After the accident, his mother would not touch him or take him outside of the home. At home, the mother had four other children and appeared to be very nervous. At age three years, eight months, the child was nearly one year behind in all areas, refused to do the memory test, cried much of the time, and continuously disrupted the group of children. The Developmental Team worked with the child on a one-to-one basis with water play, playing peek-a-boo and finger games. The mother participated in parent conferences and felt like she was seeing improvement.

Another child, at age three years, six months, had autistic behavior. He urinated and defecated on himself, had poor eye and visual contact, and was non-verbal. He didn't recognize his mother when she came into the room. The mother had kept the child at home all of the time with no stimulation. The child was placed in the Lab school, where he got both developmental and emotional treatment. The staff played peek-a-boo, provided a great deal of tactile stimulation and a

frequent change of toys. The mother participated and was helped in her own self-concept. By the last day of the project, the child was able to verbalize, his coordination had improved, and he cried when the mother left the room--an encouraging sign.

The project staff could provide numerous examples of this type of change which they observed. Could and would such changes have occurred in the absence of the project?

What is to be concluded? Additional work is needed with the control groups and the resources required to deal with such problems to ensure that programs can, in fact, perform better than no treatment in a wide range of measures over a long period of time. Strict control groups are not popular in reference to the protection of human subjects, so perhaps levels of intensity intervention could be tested. Sufficient questions arise in the data presented in the chapter to make the National Child Day Care Association feel like it is not cost-effective to continue a one-to-one treatment of children with two or more areas low on the DSA. A suggested plan is to train the day care center teachers to use the DSA, and perhaps to apply treatment techniques suggested by a developmental person and only when a child scores 12 months below age and has parents who promise to cooperate and to spend a little special time with the child. In a very recent paper by McKay, et. al.,* it was found that the first six months of treatment of low income Columbian children was the most important, but that even after 4,000 hours of treatment, a substantial differential still remained between the high

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*McKay, Harrison; L. Sinistena; A. McKay; H. Gomez; P. Lloseder, "Improving Cognitive Ability in Chronically Deprived Children", Science Vol. 200, April 21, 1978.

socio-economic group (without treatment) and the low income group getting treatment. Although their instrumentation is somewhat questionable, their data show that, clearly some children respond quite well to developmental intervention, but others cannot be helped at all, and finally conclude "the issue of individual response to equivalent treatment should be studied more carefully".

The project was designed to demonstrate ways of screening and serving children, and this it did very effectively, using personnel from the fields of special education, psychology, education, and psychiatry, to define an instrument, norm it locally, and carry out a treatment plan for each child. In fact, a new personnel skill--the developmental specialist, cross-trained in many of the above specialties--has emerged.

Conclusion

The National Child Day Care Association, using a Piagetian model, developed a screening instrument for three to five-year old children which could be used by persons with some, but not extensive, training in the developmental field, normed it on their own population, and conducted screening (at 20 minutes per child) in the day care centers. They administered the complete instrument over 1,100 times with 21% scoring low in two or more areas of testing; 6% scoring low in three or more areas; and 3% scoring low in all four areas of testing. Treatment for children scoring six months or more behind their chronological age groups in two or more areas of testing, was conducted in three modalities: (1) EPSDT staff intervention for one-to-one sessions; (2) recommendations for treatment were given to the day care center teacher; and (3) a third group who received no treatment, which emerged as a result of limited project resources. The majority of the children improved, regardless of the treatment, but, due

to many factors, the conclusion should not be reached that developmental treatment is useless. Rather, more study with a well funded program and a tight control group is needed before such a program should go nationwide. Even the "no treatment" group of children were attending day care, so gains may have been a result of regular day care activities. Children in the treatment groups studied had a greater improvement when they had a larger lag and were younger; (however, this may be a measurements phenomenon). In addition, the staff wishes more attention had been paid to the time-consuming process of working with the parents.

The cross-training required to conduct developmental assessment indicates that fully trained persons are now available to do such work. Developmental specialists with training in psychology, special education, tests and measurements, education, and social work are needed to operate successfully in the field.

CHAPTER 4

THE EMOTIONAL/THERAPEUTIC COMPONENT OF THE PROGRAM

Introduction and Evaluation of the Emotional Component

Several years prior to the beginning of this EPSDT project, the Day Care Association became aware that some children in the day care centers were extremely emotional, volatile, hyperactive and disruptive of classroom activities, but others were so withdrawn that they could not be integrated into the normal activities of the day care centers. In order to deal with the situation, a special classroom had been set up at the advice of the Day Care Association's consulting psychiatrist, Dr. Alberta Vallis. This was called the Therapeutic Nursery School (TNS). The primary therapeutic technique was showing love and attention and teaching the child to verbalize his or her feelings. The staff felt that screening was unnecessary because there was already a long waiting list of children referred by day care center teachers for such treatment. Therefore, the entire emotional component at the start of the project consisted of starting a new TNS classroom and adding a social worker to the staff of the project who could work with the therapeutic teachers to visit mothers and get a developmental and social history. The new classroom opened in October, 1973, but remained under the responsibility of the NCDCA Director of Special Education. Evaluation efforts were focused on the medical and developmental components during the first project year. However, by the end of the first year it became clear that a considerable amount of money was being spent (over $900 per quarter per child in treatment) with no documentation of the types of problems being served, average length of treatment, and knowledge of the outcomes. Also,

the social worker always had wonderful anecdotal accounts of the highly stressed environment of some families and the help that was being rendered, but had poor documentation. Therefore, two forms were developed by the therapeutic team, the therapeutic evaluation form and the social work therapeutic evaluation form which was to be completed at the time of admission and at the time of discharge with weekly progress checks in between. These forms provided some descriptive information of the problems children had and the outcomes upon termination of the child's stay in the classroom. Some results of this type are presented in later paragraphs, but as the data accumulated, it became clear that very few children were being served at a cost which, although not unreasonable in comparison to the costs of regular day care or other therapeutic programs, was more than EPSDT could ever afford and there was no information about how to screen for such conditions if treatment dollars were available.

Eventually, the EPSDT project took responsibility for the program and began some actions that could lead to reduced costs. The staff ratio of children per therapeutic teacher was reduced from 3:7 to 2:7 with no noticeable declines in results. The children were kept in the TNS only during the morning (previously they were in the classroom all day), and finally a "Lab School" was created to deal with both the cognitive and affective aspects of the child's development as a part of the U.S. Bicentennial Showcase project expansion. Although the Lab School was initially to be just for children with both emotional and developmental problems, the TNS was converted into the Lab School due to the better facilities and staffing changes that were required for the Bicentennial expansion of the project. At the same time, the Lab School was developed, funds became available for

conducting emotional screening and trying to treat the emotional problems under a "mainstreaming model" in which the EPSDT staff therapeutic teacher would attend the various day care center classrooms. As it finally evolved, roving teachers would spend one day in each center that was under the mainstream concept, providing enough coverage so the children received emotional therapy every other day. The roving teacher was present in the classroom to help arrange a better play environment in general and to work one-to-one with children that began "acting out". This not only helped the children, but provided a model for the day care teachers. This model is discussed very well in the project Final Report (pages 49-53). As an example of the environmental intervention, one day care center was set up so that all toys of a similar kind (blocks for example) were in one box, forcing children to try to use the same box to play with toys. However, children at age 2 1/2 to 3 1/2 prefer to play in "parallel" (i.e., play with the same toys as other children, but do it independently). The inability of children to do this would be enough to set-off the hyperactive children. The roving teacher suggested that toys of a similar nature be divided into many separate smaller boxes so several children could play with them at once.

Another time, the day care center teacher called the father of a hyperactive child who was acting out and had the father come in and spank the child until he behaved. The roving teacher was able to accomplish behavior modification without physical punishment by either isolating the child or getting the child to verbalize the anger and teaching the child to "hold his brakes" (that is, she holds him and tells him his "brakes aren't working and he is out of control" and needs help to learn such control).

Under the TNS, approximately eight children could be treated at one time (the average child was in treatment for 20-30 weeks), whereas the roving

teachers could treat twice as many children and do emotional screening as well. What actually is needed is a combination of both methods, depending upon the needs of the children involved.

In the preceding paragraphs, the evolution of the emotional program was summarized. In the following section, the emotional checklist which was developed as a way to consistently record observations about children's behavior will be presented. Then the evaluation data available from the various records of the therapeutic team will be presented.

Emotional Checklist

The emotional checklist (Figure 4.1) was developed as an instrument to be utilized in assisting standardized observation by non-psychiatrists of children in the day care setting who may be in need of further observation by a psychologist or psychiatrist. The checklist was developed by Dr. Ballard, in consultation with Dr. Vallis, and was given by three testers who had been involved for several years with the TNS. The tester observed a group of children on three separate occasions before completing the checklist.

The checklist allowed the observer to indicate various behaviors which occurred either more often or less often than would be expected for the child's age. A check mark was made only when the activity was considered to be abnormal for the child's age. The observer would then rate the child as either above average, average, or below average in overall emotional development.

There were 600 pre-school children observed by the instrument. After those children rated "below average" were discussed with the psychologist and/or psychiatrist, some were selected for treatment. Whereas 31% of the children were considered to be low (centers Lincoln Temple, Lincoln Westmoreland,

FIGURE 4.1

NATIONAL CHILD DAY CARE ASSOCIATION
EARLY AND PERIODIC SCREENING DIAGNOSIS AND TREATMENT PROGRAM

Emotional Checklist

Child Information

Child's Name 5-18 Last 19-28 First Child's # Center 29-30 Child 31-34

Date of Birth Mo. Day Yr. 35-40 Date of Observation Mo. Day Yr 41-46 Chronological Age Years Months 47-50

Tester Information

51 __ Initial ☐ = 1 or Periodic ☐ = 2 Tester Code 53-55 Teacher Code 56-58

52 __ Pre ☐ = 1 or Post ☐ = 2

Observations at Screening: Emotional Level Suggested by Screening

59 __ Below Average ☐ = 1 Average ☐ = 2 Mature ☐ = 3

Check if Considered a Problem:

ORAL
Personal
60 ____ Thumbsucking
61 ____ External Control Needed
62 ____ Fears Loss of Contact with Adults
63 ____ Overrelates to Inanimate Objects
64 ____ High Degree of Dependency
65 ____ Trouble Accepting Role
66 ____ Day Dreams
67 ____ Unduly Sleepy

Interpersonal
68 ____ Need to Separate from Group
69 ____ Clings Excessively to Adults
70 ____ Passive Behavior with other Children

ANAL
Personal
35 ____ Neat
36 ____ Orderly
37 ____ Commits Self-destructive Acts

Interpersonal
38 ____ Shy
39 ____ Abusive
40 ____ Often Blames Others

GENITAL
Personal
41 ____ Sense of Time

GENITAL–Personal (Continued)
42 ____ Accepts Praise
43 ____ Enjoys Playing Alone at Times
44 ____ Sense of Self Worth
45 ____ Can Delay Gratification
46 ____ Judgment of Acts
47 ____ Appropriate Threshold for Frustration
48 ____ Control During Transition

Interpersonal
49 ____ Shares with Children
50 ____ Relates to Peers of Same and Opposite Sex
51 ____ Enjoys Playing with Others
52 ____ Respects Rights of Others
53 ____ Appropriately Agressive
54 ____ Child Tests Limits
55 ____ Mimics Behavior of Others

GENERAL
Intellectual
56 ____ Curiosity
57 ____ Creativity
58 ____ Explorative

Personal
59 ____ Inability to Concentrate
60 ____ Establish Handedness
61 ____ Coordinated in Motor Area
62 ____ Appropriate Verbalization

Observer's Comments: _____

Psychiatrist's Comments: _____

Please check applicable category:
63 ____ Hyperactive 64 ____ Withdrawn 65 ____ Adjustment Reaction to Childhood

Tyler House, and Hayes all having greater than 30%), a total of only 10% were considered serious enough for treatment (5% were treated, but there was a control group not receiving treatment due to lack of resources and experimental design). To get an understanding of the types of behaviors that resulted in treatment, Table 4.1 was prepared. The table compares those treated to those not treated but rated low, and to those who rated average or above on the test.

The items which seemed to characterize children selected for treatment include:

1) External control needed
2) Trouble accepting role of child, learner, boy or girl
3) Inappropriate threshold for frustration
4) Difficulty in sharing with other children
5) Very aggressive
6) Tests limits

A review of the therapeutic charts reveals that children in the therapeutic program were either hyperactive and disrupting classroom activity, or highly withdrawn--clinging to adults and not playing with other children. The primary therapy was one of getting the child to verbalize feelings, to improve self concept through showing that others love the child (some children had obviously been or had witnessed great social trauma--parent shot, mother alcoholic, mother no longer wanting child, etc.), and to get the mother to continue the progress at home.

Inter-rater Reliability

The Emotional Checklist was given to the same 40 children by the two different testers at the same time. These two testers were the ones who

TABLE 4.1

Items Checked on Emotional Checklist according to Treatment Status

Number of children Screened having a rating:	N = 30 Low Treated	N = 154 Low Not Treated	N = 416 Passed Not Treated
Item on Checklist:			
Thumbsucking	6.7	12.3	6.3
External Control Needed	46.1	30.5	3.8
Fears loss of Contact with Adults	13.3	14.9	3.6
Overrelates to Inanimate Objects	10.0	5.2	1.6
High Degree of Dependency	20.0	18.2	1.7
Trouble accepting role of child and learner, or boy vs. girl	26.7	11.0	5.0
Day Dreams	20.0	25.3	4.3
Unduly Sleepy	3.3	1.3	0.0
Need to separate from group	10.0	13.6	1.9
Clings excessively to adults	3.3	7.8	1.2
Passive behavior with other children	26.7	19.5	2.4
Neat	10.0	7.1	3.4
Orderly	3.3	2.6	1.4
Commits self destructive acts	6.7	0.0	0.0
Shy	10.0	13.6	4.1
Abusive	23.3	20.1	6.5
Often Blames Others	3.3	1.9	1.0
Sense of time	16.7	15.6	1.9
Accepts praise	20.0	29.2	1.9
Enjoys playing alone at times	20.0	33.8	3.8
Sense of self-worth	40.0	53.2	6.5
Can delay gratification	36.7	13.6	3.8
Judgement of acts	23.3	4.5	2.6
Appropriate threshold for frustration (except for experimental control)	33.3	11.7	3.6
Control during transition	46.7	34.4	10.3
Shares with children	40.0	16.9	7.5
Relates to Peers of same and opposite sex	23.3	25.3	1.2
Enjoys playing with others	23.3	22.7	3.4
Respects rights of others	33.3	27.9	5.8
Appropriately Aggressive	40.0	22.1	3.1
Child Tests Limits	43.3	29.9	9.1
Mimics behavior of others	20.0	9.7	5.0
Curiosity	6.7	8.4	1.7
Creativity	0.0	5.2	0.2
Explorative	10.0	13.0	1.9
Inability to concentrate	20.0	21.4	2.5
Establish Handedness	6.7	9.1	1.4
Coordinated in motor area	33.3	20.8	1.7
Appropriate Verbalization	40.0	40.3	6.7

performed the majority of the total group of emotional checklists. The results were very encouraging. The children with dual observation and rating were from six different day care centers and represented children ages two years, seven months to five years, five months. A total of five children were rated as below average and both testers agreed upon four of the five children. The fifth child was rated as below average by one tester and average by tester number two.

Table 4.2 shows the rater differences in the checklist from the point of view of the number of check marks given in each area of observation (oral, personal, and interpersonal, oral-personal, and oral-interpersonal, etc.). Each check mark indicated a possible problem area in such a way that, if enough check marks appeared, the child may be considered to have potential problems. It appears that even though there was a high rate of agreement on which children were below average, there were some differences about the performance of the children in the areas of oral (both personal and interpersonal), and genital (personal and interpersonal), whereas the other areas of anal and general were in high agreement.

It appears from this small sample that for persons trained in the use of the instrument, and with several levels of diagnostic observation following the checklist, the emotional checklist is workable in a day care environment where the children can be observed in interaction with others over a period of three to four days.

Changes in the Percent Scoring Below Average Over Time

The emotional checklist was given at four different times during the last two years of the project. There was some turnover of children between and within the school years, so the test results did not necessarily reflect

TABLE 4.2

AREAS OF OBSERVATION BY RATERS A AND B

IN INTERRATE RELIABILITY STUDY

Number of Checkmarks	Oral Personal		Oral Interpersonal		Anal Personal		Anal Interpersonal		Genital Personal		Genital Interpersonal		General Intellectual		General Personal	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
0	36	34	37	35	40	39	40	40	36	32	35	33	40	40	37	37
1	2	5	3	5	0	1			3	7	2	5			2	2
2	2	1							1	1	3	2			0	1
3	0	0													1	0
Number of possible checks in the area	8		3		3		3		8		7		3		4	

the change in emotional status of the same set of children at each time. However the range of 15 to 42% (with an average of 30%) scoring low, combined with the diagnostic selection that indicated that 30% of these would have priority for treatment, meant that approximately 5 to 10% of a day care population of children are in need of therapeutic intervention of the type described earlier in the chapter.

Use of the Emotional Checklist to Assess Alternate Therapy Modalities

During the two school years during which the emotional checklist was given (twice each school year), there were three alternatives for treatment, depending upon the day care centers, two of which involved treatment by project staff (TNS/Lab School and roving teacher) and one of which involved giving recommendations to the teachers.

First, the treatment versus no treatment comparison will be studied. Insufficient staff was available to treat all children with the aid of EPSDT staff members. It was decided to work with children in those day care centers not receiving one-to-one developmental tutoring for children scoring low on the DSA. Therefore, even the "no treatment" centers had intervention of some form by EPSDT staff members, although not necessarily addressing the same set of children as were shown to be low by the Emotional Checklist. As stated in the previous chapter, however, some children getting one-to-one treatment by the Developmental Team actually had more emotional than strictly developmental problems. A check of this showed 18* children scoring low on the emotional checklist were in the group getting one-to-one

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*Represents 20% of those in control. The 18 children in the one-to-one developmental treatment had 33% improvement--a lower rate than those in the rest of the control group.

EPSDT treatment. The results for the centers receiving treatment versus those not receiving treatment are as follows:

Emotional Treatment Centers (both 1975-76 and 1976-77)

72 scored low on emotional checklist pre-test and of these,

56 received a post-test four to six months later, and of these,

32 still scored low on the post-test.

Therefore, 24 out of 56 children (43%) improved on the post-test.

Control Centers (both 1975-76 and 1976-77)

104 scored below average on the pre-test, and of these,

91 received a post-test four to six months later, and of these,

39 were below average on the post-test.

Therefore, 52 out of 91 children (57%) improved on the post-test.

This implies, that, while special attention needs to be given to children who are totally disruptive of classroom activity, the others apparently mature on their own regardless of the type of treatment they are given in a day care environment (but, again, they are in day care).

Based on the emotional checklist results, it is not possible to observe a differential effect of treatment on the emotional checklist results due to the intervention of the roving teacher and the TNS. The available data is insufficient to conduct detailed analysis of the reasons for such a phenomenon, but there is sufficient evidence to warrant further investigation on the part of the Day Care Association and the federal government under a much more tightly controlled experimental design. Children in the control centers were in day care, so the control group was not free of biased influences. Seeing the person on the developmental team as a model, may have been sufficient to help the regular teacher provide emotional stimulation sufficient to help the child develop; also, as in any instrument, the

instrumentation may not be sensitive enough to distinguish the improvement or lack of improvement in the most serious cases.

Parents' involvement for children in the TNS was very high (the project rule was that if a parent missed more than three consecutive bi-monthly classroom visits, the child would be dropped from the program and even, perhaps, from the day care center). It may be that such involvement of the parents was more important for the future development of the child than the direct involvement with the child, but long term studies would need to be made before conclusions could be reached. There is little documentation available about parental involvement, but it will be mentioned later in the chapter.

Next, we move to the comparison of the children in TNS versus roving teacher treatment. As it turned out, there was also a third group who received both interventions. The roving teacher attempted to deal with a problem until it was determined that the child needed more intensive intervention for effective treatment.

HSRI obtained pre- and post-test ratings on 27 children in the emotional treatment program. All 27 children were rated below average on their pre-test. The following table indicated the number of children improving (i.e., moving from below average to average) in each of the four treatment modes:*

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*Twenty-two of these children also had developmental pre-tests given and 40% scored six months below chronological age in two or more areas. This was twice the rate scoring low as in the general group of children.

Number and Percent of Children Improving

in Each of the Emotional Treatment Modes

	N in Treatment	Improvement	No Change
Therapeutic nursery and lab school	8	1 12.5%	7 87.5%
Roving teacher model	13	4 30.8%	9 69.2%
Multiple	6	3 50%	3 50%

The number of children with complete data is small and the randomization of assignment could not be guaranteed, but in the roving teacher group, approximately one-third of the children improved, compared to 12.5% of the TNS/Lab school group. This roving teacher model was the least expensive mode of treatment. The therapists could travel from center to center treating a number of children, foregoing the cost of operating a classroom that could serve a maximum of six to eight children at one time. The project staff concluded that roving teacher concept should be the major emphasis in any future program, but that a Therapeutic Nursery School (TNS) was also essential for a small number of cases.

The demonstration project was designed to be more one of demonstrating a possible process than a research of best methods, but the environment lent itself to a small degree of variation in program design and some data was collected and reported above with the hope that future study will be stimulated. Although the results of program variables were inconclusive, it appears that the process of delivering emotional treatment worked well in most areas. In order to illustrate this, data collected on the therapeutic evaluation forms for 82 children served by the therapeutic team between October 1974 and July 1976 will be presented.

Referral Source

The following table shows the sources of referral for the entire length of the project through July, 1976, that were indicated in the therapeutic data sheets. There were 82 children, but 113 referral sources listed.

Sources of Referral for the Period October '74 through July '76

Source	N	Percent of Total
Day Care Center Director	14	12.4%
Psychiatrist	27	23.9%
Therapeutic Team	7	6.2%
Teacher	64	56.7%
Mother	1	.8%

The day care teacher and psychiatrist accounted for 80% of the referrals.

Reasons for Referral

Table 4.3 lists the reasons stated on the data sheet why the referral source had referred the child to the therapeutic situation and contains several items, including the number and percentage referred for a given reason, the average length of stay (in weeks), and the average number of visits of the social worker with the parents. Various forms of either aggressive or withdrawn behavior comprise the majority of reasons.

Staff's Quantitative Evaluation of Improvement

The therapeutic team has attempted to quantify the child's emotional status with regard to factors they felt were related to children's emotional health. These are listed in Table 4.4 along with the number and percentage of children who received a low rating and the number of children showing

Table 4.3

Reasons for Referral to the Emotional Treatment Program

Reason	N	% of Total Reasons	Average Weeks in Therapy	Number of Parents Visited*	Average Number of parent visits per parent visited**
Aggressive	17	13.8%	20.2	6	13.67
Withdrawn	16	13.0%	26.8	9	11.44
Hyperactive	14	11.4%	28.9	6	11.83
Short Attention Span	10	8.1%	27.1	6	11.0
Other (not specified)	9	7.3%	23.3	5	8.6
Negative self worth	8	6.5%	32.0	4	8.5
Speech problems	8	6.5%	15.8	4	12.25
Insecure	7	5.7%	13.0	0	0
Temper Tantrums	7	5.7%	23.0	5	13.0
Adjustment to childhood	7	5.7%	25.9	4	8.5
Does not know limits	5	4.1%	24.0	3	8.61
Low coping mechanisms	3	2.4%	28.7	2	17.5
Basement child	2	1.6%	13.0	2	12.0
Developmental Lag	2	1.6%	44.0	1	11.0
Mobility	2	1.6%	46.5	0	0
Craves attention	2	1.6%	14.0	1	8.0
Childhood habits	2	1.6%	16.0	0	0
Phases out	1	.8%	8.0	0	
Little man syndrome	1	.8%	22.0	1	12
	123 reasons for 82 children			59 parents visited	

*It is not clear whether the other parents were not visited or whether the social worker did not complete the forms. Missing forms are the most likely explanation.

**Sometimes parents were visited in the home, sometimes at the center.

Table 4.4

Quantitative Therapeutic Team Evaluation of the Children and their Quantitative Improvement at the Time of Dismissal or Termination of Treatment

	(1)	(2)	(3)	(4)	(5)	(6)
Factor	Number	% of 82 children	Average length of stay (weeks)	Number improving	Percent improving ((4) ÷ (1))	Average length of stay for those improving
Reality	15	18.1%	19.5	4	26.7%	25.8
Memory	20	24.4%	26.3	11	55.5%	30.0
Verbalization	14	17.1%	28.1	10	71.4%	30.4
Judgment	19	32.2%	23.9	12	63.2%	25.6
Self-worth	16	19.5%	24.1	12	75.0%	27.8
Mother Identification	20	24.4%	25.1	12	60.0%	30.3
Father Identification	20	24.4%	26.0	12	60.0%	30.8
Peer Identification	14	17.1%	25.5	14	100.0%	28.0
Nonverbal Behavior	3	3.7%	20.2	0	0.0%	0
Play Behavior	5	6.1%	17.0	3	60.0%	22.0
Coping Behavior	5	7.3%	18.2	2	33.3%	35.0
Motility	11	13.4%	22.7	4	36.4%	25.5
Aggression	5	6.1%	30.0	3	60.0%	33.3
Visual	1	1.2%	26.0	1	100.0%	26.0
Mother Relatability	23	28.0%	22.5	13	56.5%	24.5
Father Relatability	27	32.9%	23.5	16	59.3%	25.9

improvement. The percentage of those children that were low in an emotional factor and who were showing quantitative improvement are indicated on the chart. Also given are the average lengths of stay for those with that problem. The table reveals that 24 to 30% had problems with either memory (a symptom of hyperactivity), mother identification, father identification, or mother and father relatability. Areas with greatest improvement shown included peer identification, play behavior, self-worth, and verbalization. The areas of lowest improvement were reality, coping behavior, and motility. The children with reality, coping and motility problems perhaps need a higher level of assistance than can be offered in play therapy environment, but certainly, if children in a low income population can be assisted in the areas of self-worth and verbalization, their chances for breaking the poverty cycle should be enhanced.

Subjective Evaluation of Improvement

In addition to the quantitative scores, the members of the therapeutic team were asked to state the level of improvement that they perceived in the child as a whole. Since the same person gave the quantitative and the subjective rating, little difference would be expected, but the subjective rating is a review of the total picture of the child's emotional status. When the subjective evaluation was available, 77.5% showed moderate to major improvement at the time of dismissal. However, this is somewhat clouded by the results on the emotional checklist shown earlier which showed some improvement in 40% to 60% regardless of treatment.

Parent Visiting

The parent visiting has been shown in earlier tables. Some parents who were seen and had evaluation forms completed had the following types of problems noted by the social worker:

Problem	Number Low	Number Improved
1. Poor outlook on life	9	0
2. Not listening to child, explaining things and saying "I love you"	8	0
3. Poor attitudes about self and child	0	0
4. Combination of 1 and 3 only	2	0
5. Combination of 1, 2, and/or 3	2	0

Improvements were noted in certain areas, but not the same areas as in which the parent was low originally! Except for the second problem in the table, the others may define basic personality characteristics or experiences which could take years to correct. This problem makes the value of a short-term intervention program with parents of low-income inner city children somewhat questionable. A review of the case studies of some of the children's guardians shows that some children in this program have encountered severe emotional blows. For example, one child saw her mother shot to death by her father in the bathroom of the apartment. The child refused to enter bathrooms at the day care center. Some of the mothers were highly psychotic themselves and could not be expected to direct their attention to helping their child overcome his or her problems. The social worker's task in such cases could be to direct the parents to proper resources rather than trying to help directly.

Parent Attitudes and Behavior

Mothers of children who were involved in treatment for emotional problems were given a questionnaire in April 1976 and again in June 1976 after their children had been involved in intensive therapy. The questionnaire was designed by project staff in conjunction with the on-site evaluator. Only 13 parents were given both the pre- and post-test. The discussion that follows is based on the answers to the questions on the pre- and post-test. It appears that, in most areas of questionning, the mother is saying that she is verbalizing more and paying closer attention to the emotional needs of the child. However, it did not appear that drastic changes were observed in these parameters of parental concepts--given commitment of staff time necessary. When mothers were not cooperative, however, it appeared in the review of the therapeutic charts, that little permanent progress was made with the child's progress with respect to his or her behavior in relation to others (see Table 4.5).

Case examples

The following cases (extracted from the therapeutic evaluation forms) are included to provide an individualized flavor of the type of benefits most frequently provided by the project's therapeutic program:

Child 1: The child, male, 4 years, 11 months of age, entered the TNS in October, 1975, and was in the program for 32 weeks. Upon entry he had a very low frustration level and would whine when he could not get his way, often had temper tantrums, had large gross motor awkwardness, and would cling to adults who visited the classroom.

TABLE 4.5

Results of a Parent Questionnaire
Given to Parents Before and After the Emotional Treatment

Percent of 13 Answering Yes to the Question on the Pre and Post Test

Item and Question	Pre	Post
Child is in program because:		
1. Not learning in school	7.7%	0.0%
2. Does not listen to teachers	7.7%	0.0%
3. Does not know alphabet	23.1%	0.0%
4. Something is wrong with him	7.7%	0.0%
5. Needs better skills for Kindergarten	92.3%	92.3%
Each Day we spend _____hours together	(Avrg. of) 3.6 hrs.	3.5
As we walk, we talk about what we see	69.2%	84.6%
When I market, he helps	53.8%	53.8%
We talk about things that happen	61.5%	76.9%
When we go visiting, he has something	53.8%	69.2%
I don't enjoy taking him with me	7.7%	7.7%
I let him help with chores	53.8%	61.5%
Describes what he does at end of day	100.0%	84.6%
I am proud of him	84.6%	100.0%
I am worried about him	23.1%	30.8%
He can take care of himself	23.1%	15.4%
He wants too much attention	23.1%	7.7%
He's spoiled	53.8%	23.1%
We talk about what he did in school	84.6%	92.3%
He tells me about his friends	84.6%	76.9%
Tells me about work brought home	53.8%	84.6%
I tell him I love him and am glad to see him	84.6%	76.9%
We usually don't talk about anything	15.4%	15.4%
At home, he takes care of himself	23.1%	15.4%
Helps me get ready for meals	53.8%	38.5%
Can fill his own plate	46.2%	61.5%
Plays all the time	30.8%	46.2%
Helps with household chores	61.5%	61.5%
Goes outdoors by himself	53.8%	38.5%
Plays alone alot	15.4%	7.7%
Looks at books and pictures	76.9%	100.0%
Draws,cuts, or pastes	53.8%	53.8%
Plays with dolls	53.8%	46.2%
Plays with own toys	61.5%	69.2%
Plays with anything around the house	15.4%	23.1%
Watches T.V. all the time	23.1%	7.7%
Plays well with siblings	76.9%	69.2%
Usually fighting with siblings	23.1%	30.8%
Does not like his sibling	7.7%	0.0%
Tries to keep up with older children	53.8%	23.1%
Plays alot with the baby	30.8%	23.1%
How Disciplined		
When he doesn't listen, make him		
look me in the eye	69.2%	69.2%
send him to bed	23.1%	15.4%
send to his room	38.5%	38.5%
too tired to do anything	7.7%	0.0%
ask mother to take over	7.7%	0.0%
spank him	61.5%	46.2%
won't talk to him for a while	7.7%	15.4%
take away something he likes	46.2%	46.2%
other	7.7%	7.7%
Relatives are a big help	46.2%	61.5%
Spouse and I share responsibility	30.8%	23.1%
Spouse and I agree in most things	23.1%	23.1%
We don't have much time to spend	7.7%	7.7%
Parents gave me a lot of love	46.2%	30.8%
Parents live nearby	30.8%	30.8%

The diagnosis given by the psychiatrist was adjustment reaction to childhood. The goals for treatment were stated as follows:

- consistent and continued verbal reinforcement
- provide large muscle physical stimulation
- give him appropriate ways to deal with frustration and anger
- improve self-concept
- reassure him that mommy and daddy love him.

After 32 weeks of such therapy and working with the mother to be more "available" to listen and play with the child, he began to behave in such a manner that he could participate normally with the other children.

Child 2: A female, 4 years, 11 months of age, entered the program in May, 1974, and finished in November, 1974. She was referred by the day care center teacher because she seemed withdrawn, overly sensitive, clung to adults, urinated on herself three or four times a day, and had difficulty talking in a group. The psychiatrist diagnosed her problem as adjustment reaction to childhood.

The plan of treatment involved improving her self-concept by encouraging her to speak and relate to others, building security in herself and others, complimenting her appearance and accomplishments, helping to understand that failure is a part of life, and giving her constant stimulation like swinging and patty-cake games.

Upon entry, she was very passive and had no eye-to-eye contact and poor relationship to others. After seven months, the play therapy and help from her guardians (grandmother and aunt), she became very talkative--initiating most conservations and had none of the problems witnessed upon referral.

Child 3: A male, four years, five months of age, entered the program in December, 1975, as a result of the emotional screening. He had abusive language, sporadic attention span, and was always hitting other children. The psychiatrist diagnosed the problem as adjustment reaction to childhood. By August, 1976, he had been in the TNS and then in the Lab School, but was released from the program due to the income guidelines of the Day Care Association.

At the time of entry to the Day Care Association, he had those problems mentioned above and, in addition, saw himself as a "little man" rather than a child and had a lack of trust in adults.

Upon termination in the Lab School, he had begun to use appropriate words instead of hitting and saw himself as being a little boy, but still had some difficulty in trusting adults.

Conclusion

The therapeutic team of the project provided special attention to children who were hyperactive, withdrawn or having an "adjustment reaction to childhood", which generally resulted from a traumatic series of events in the child's life. The treatment involved play therapy designed to increase self confidence, teach verbalization of frustrations, teach hyperactive children to keep calm and help withdrawn children to initiate peer interaction. Treatment of this kind required a special classroom having a maximum of six to eight children. The average time in this special classroom required was 30 weeks. The alternate program of this type was a Roving Teacher program in which the therapeutic teacher went into the regular day care classroom and worked with children every other day. This arrangement allowed treatment of twice as many children as the special classroom with the same resources,

with no apparent reduction in effectiveness. However, it was felt by project staff that a special classroom should still be available for children needing additional one-to-one attention.

The identification of problems was initially accomplished through referral by the center teachers. However, a Freudian based emotional checklist was developed and used in which the EPSDT therapeutic team observed children in their day care centers on three separate occasions. Thirty percent were rated as below average on a scale of below average, mature, and above average. Further diagnosis and limitations of treatment resources meant that 16% of these were treated. It is, therefore, estimated that a minimum of 5% and perhaps as high as 10% needed such treatment.

Inconclusive data with respect to the differential effect of treatment on children scoring low on screening indicates that carefully designed studies (with carefully designed control groups) should be conducted before releasing large amounts of money for such activity in the entire population. However, case studies show that small amounts of funds released for therapeutic nursery and roving teacher type activity may be helpful in improving behavioral problems. Certainly group therapy rendered by a team of persons able to pay appropriate attention to pre-school children is cheaper than individual therapy and should be considered as an early part of a continuum of mental health services available.

While the emotional screening described in this chapter would not be appropriate for routine screening as conducted in most EPSDT programs because of the requirement for observation by well-trained persons in an environment familiar to the child, it could be adopted for use by local groups working with children in a day care center type of environment. Perhaps local child health diagnostic centers could be provided for children with mothers who

were concerned about their behavioral problems. The child could be placed in a day care type environment for a short period and then observed for behaviors requiring special care. While it is not clear as to why over half of the children in this project with behavioral problems were able to significantly improve (i.e., was it the day care environment or maturation); the improvement observed suggests that many behavioral problems that cause problems in schools may be helped by earlier interventions.

CHAPTER 5

SPECIAL ASPECTS

This chapter reviews briefly several areas of project activity that have possibilities for wider application including the paraprofessional training, use of volunteers, and record completeness.

Paraprofessional Training

During the Bicentennial expansion, the project was funded to begin a paraprofessional training program involving two sets of persons with a high school education, but no college training, who were to be trained by project staff and consultants. These persons would be trained to perform the tasks required for project activities in the areas of assisting with the medical, dental, developmental or therapeutic screening and follow-up or treatment.

The project offered minimum wage and obtained a pool of over 100 qualified applicants for the six positions available during the first year. Group interviews were held and the applicant pool was reduced to 25-30. This group was called in for several role playing sessions in which peer applicants were asked to rate those in the group that would be best qualified to handle a job of working with children.

A training coordinator helped arrange schedules and teach the trainees about Day Care Association terminology, policies toward children, policies toward personnel and jobs.

Didactic sessions were held by volunteer instructors or day care staff members in the areas of medical, dental, developmental and emotional screening and treatment following a discussion of general child development principles.

Use of Volunteers

A volunteer coordinator was, from the beginning, designed to be an integral part of the program. It was found that if volunteers are to be involved in helping with screening, paper work, or treatment, they must have a commitment to show up each time for a continued period of time and be carefully oriented to the tasks to be performed. Recruiting and training such volunteers requires almost a full-time volunteer coordinator. College students were found to be most helpful in assisting with the medical screening or the developmental treatment--especially when they could get course credit or good job experience. However, other volunteers required tasks that were rewarding but often they were not consistent enough in attendance to be counted upon as part of the staffing. The women who had the time and skills to volunteer were upper middle class women who were uneasy with the environment of the inner city. From an economic perspective, the hours volunteered were barely sufficient to cover the cost of the volunteer coordinator, and some volunteers were very demanding of attention and time.

The evaluators concluded that programs designed to assist EPSDT activities for low income children should not plan to accomplish the task through volunteers. It would be much simpler to use the same money as salary of a volunteer coordinator to hire full-time personnel. There may be community awareness pay-off due to the involvement and working knowledge of a wider segment of the population, but it seems that such support could be obtained through more cost-effective mechanisms such as tours and slide or movie presentations to organized groups; then, if volunteers emerged, they could be assigned directly to a regular staff member.

Pre-tests and post-tests were given for many individual sessions as well as at the beginning and end of the program. The pre-test/post-test results are summarized in Table 5.1. The pre and post-tests were designed by project staff teaching each subject. The quality of the tests varied considerably from one area to another, although the results shown in Table 5.1 show generally positive gains in knowledge. The types of questions asked are illustrated by the immunization and laboratory test and first aid test used on the second group included as Appendix G. In general, gains in knowledge were measured, but the details are not discussed because the tests were not checked for reliability over time. The high level of performance on the post-test indicates that the individuals were trained to a knowledge level, which in the opinion of the operational project staff meant the trainees had the knowledge base to adequately perform their job.

On the job experience was also beneficial. The primary evaluation of the performance of the trainees came from observer checklists completed by evaluation consultants familiar with the program and with child development advanced degrees. The observer checklist was rated by two different raters, and some trainees were double rated. The only difference between raters was the precise number assigned rather than the conceptual indication of the level of performance. Table 5.1 contains the observation results completed twice in the process of on-the-job training. It shows that by the end of the training (post-test), 90% of the trainees scored well for the required tasks shown on the observer checklist (shown in Appendix H). Kuder* interest tests were also given, and the major

*The Kuder test appeared to be somewhat culturally biased. Choices such as "see exhibits of canned goods at a country fair" may not have a great deal of meaning for many persons now living in the city.

TABLE 5.1

Results of Paraprofessional Training

Percentage of Improvement $\left(\frac{\text{post-pre}}{\text{pre}}\right)$ in Scores on Areas of Testing*

Trainee	Observation Checklist % of Items Scored 6 or 7 Pre	Post	General	Child Development	First Aid	Immunization and Lab	Anatomy and Physiology	Growth and Development	Primary Interest Area indicated on the Kuder Interest Test	Program Assignment in Project
Group I										
01	47%	100%	32% (100)	91% (97)	7% (100)	28% (96)	0 (83)	33% (100)	Social Service	Medical
02	80%	97%	78% (100)	53%	36% (100)	31% (99)	17% (100)	44% (100)	Scientific Computational	Therapeutic (Lab School)
03	61%	91%	25% (100)	41% (94)	15% (100)	44% (96)	50% (100)	25% (94)	Social Service	Therapeutic
04	65%	100%	79% (100)	85% (91)	36% (100)	36% (79)	22% (92)	45% (100)	Artistic Persuasive	Med-Social Work
05	0%	90%	52% (100)	183% (94)	15% (100)	35% (88)	17% (92)	50% (94)	Art Music	Medical
06	Not Observed	100%	47% (94)	161% (87)	63% (87)	45% (67)	67% (83)	25% (63)	Social Service	Medical Dental
Group II										
07	96%	100%	80% (72)	40% (84)	88% (90)	235% (77)	103% (67)	34% (59)	Computational	
08	86%	100%	64% (72)	39% (100)	50% (100)	111% (91)	83% (83)	81% (81)	Social Service	
09	100%	100%	100% (96)	11% (80)	55% (93)	138% (86)	43% (83)	28% (81)	Social Service	
10	100%	100%	91% (92)	3% (76)	16% (93)	59% (100)	59% (92)	127% (100)	Artistic Social Service	
11	100%	100%	23% (64)	185% (80)	-35%** (60)	111% (58)	0% (58)	-4% (66)	Literary Social Service	

*Raw scores are shown in the project's final report, page 132.

**Had other personal matters affecting scores.

interest area given at either the pre- and post-test are shown in the table. There are a wide range of interests, with social service predominating, but interest area did not predict performance or job assignment except for one person who, at the end, would rather play music than do the tasks at hand. All project staff members interviewed by the evaluation team reported that the paraprofessionals were extremely helpful in the conducting of the tasks of the project component to which they had been assigned as long as someone was available to help organize the daily and monthly activities. The training period of six months was sufficient and perhaps could be shortened to four or five months under the direction of a highly organized training coordinator. The second group of trainees were younger, but their experiences were much more organized and they seemed to make faster progress. The availability and trainability of such personnel for the routine functions involved in the program means that local EPSDT and child development programs throughout the country could reduce the costs of screening by funding such training programs. For a cost of $55,000 (including salaries), at least five people could be trained to perform (under appropriate supervision) the work of five persons that, if the trainees were not available, would cost twice as much per year. If the trainee would work with the organization more than one year, the cost of the training would be fully amortized since the individuals they replace would cost at least $15,000 per year. It must be pointed out that, while the trainees are in training, they are performing job tasks on the job. Therefore, the entire $11,000 per trainee should probably not be charged to training only.

Record Completeness

Such a wide range of activities in one program requires a record system that is accessible and complete. During the first two years, the developmental and medical records were kept separate, but it was difficult when a question arose about a specific child to assemble the complete record. Therefore, the records were kept centralized at the EPSDT office for the medical and developmental screening and treatment, and the emotional screening. There was, in addition, a problem of preparing records for both the EPSDT and the Day Care Center.

Prior to the end of the project, a sample of thirty preschool names were chosen from the list of children screened for medical problems in the previous year. Each chart was reviewed for the presence of forms that should be present to give a complete record for the child. The preschool centers involved included Antoinette Harmon, Gibson, Hayes, Lincoln Temple, Lincoln Westmoreland, Phyllis Wheatley, Tyler House, and Pilgrim. Table 5.2 shows that less than half of the screening permission forms, referral forms, dental forms, dental permissions and intake forms that were needed were available in the active chart. However, 26 of the 29 medical screening sheets and 22 out of 28 developmental screens were available. Therefore, the crucial services were documented and the forms were very easy to read.

The project discovered toward the middle of the project that a person had to be hired that did nothing but keep track of the accuracy and completeness of the records. When screening and follow-up activity became heavy, incomplete forms piled up. Finally, at times, screening activity had to be suspended so that the staff could get the forms together. As can be seen in the appendix dealing with the record system, many different and complex forms were involved.

Table 5.2

Results of Records Completeness Review

PreSchool

Form	# Needing	# There	# Complete	% of those needing
Screening permission	28	16	12	43%
Screen sheet	29	29	26	90%
Problem sheet	15	14	12	80%
Referral forms	15	6	5	33%
Developmental screen	28	24	22	79%
Emotional checklists	26	6	6	23%
Dental form	29	14	11	38%
Dental permission	29	13	13	45%
Intake	29	11	11	38%

There was a tendency early in the service delivery program on the part of the project staff and evaluators to underestimate the level of effort necessary to maintain complete records. It is, therefore, recommended that, since most persons who are oriented toward service delivery get very little satisfaction out of filling out forms, that one record technician per five service delivery staff members be budgeted into programs dealing with children.

Chapter Summary and Conclusion

Paraprofessional training was found to be economical and the trainees could perform many of the tasks required in the project after six months of didactic and on-the-job training.

Volunteers were used, but the economic contribution was not sufficient to justify the required volunteer coordinator.

Records were found to be highly complete with respect to the basic screening results; however, this required a great deal of clerical effort. It is recommended that one data technician be hired to work with each five staff members performing service delivery in order to maintain complete and accurate records.

CHAPTER 6

ESTIMATED COSTS OF A COMPREHENSIVE OPTIMAL EPSDT EFFORT AND IMPACT ON MEDICAID TREATMENT COSTS

This chapter presents an estimation of the costs of the project based upon a combination of actual expenditure reports, staff activity logs, staff estimates of the allocation of dollars to components of the project, and assumptions about the costs that would continue if the program were to continue in an operational form. When matched with estimates about the volume of activity that could occur in an ongoing program (based upon actual activities), the cost for each component (medical, developmental, and emotional) can be calculated. The sources of data and related dollar computations are explained in the following paragraphs. The chapter will conclude with a discussion of the impact of the project on medical and dental costs paid by Medicaid in Washington, D.C..

Sources of Data

Prior to estimating the line-item costs that are shown in column (2) of Table 6.1, the monthly requests for reimbursement submitted by the project to the Department of Human Resources for the period between July 1, 1975 and June, 1977 were reviewed, along with the accounting journal spread sheets kept by National Child Day Care Association showing the checks written, the payee, and the classification of the expense. In addition, the two week payroll master sheets were utilized to compute the salaries for each person on the staff. The time period of September 1975 through May 1976 was chosen as the time period that most closely represented a time of project stability as well as the most refined screening and follow-up techniques prior to the onset of the Bicentennial

expansion in which the volume of activity in all areas was greatly expanded. The first one and one-half years were considered as a start-up time of testing different techniques and developing alternative procedures so this intermediate time period was chosen as a focus for cost analysis.

The salaries in column (2) of Table 6.1 represent actual salaries in 1975 dollars, but the rest of the expenditures are estimates based upon a detailed review of the actual expenditures to consider those that would, on the average, be incurred throughout the entire year, but were spread out over the year equally each month.

Columns 3,8,13, 17, and 18 contain the total dollars that are to be allocated to the medical component, developmental component, and emotional program, training program, and indirect (general) operation of the project. The columns such as 4-7, 9-12, and 14-16 split out the total amount allocated of the respective project components to the chief activities within each component including outreach, screening, treatment, and case monitoring. Outreach included scheduling screening, obtaining parental permission slips, obtaining short histories and Medicaid numbers from the parent. Screening included those activities involved in performing the actual screening. Treatment includes both diagnosis and treatment that occurred onsite by the nurse and pediatrician conducting the screening, as well as the large amount of treatment done a Children's Hospital and private physician offices paid for by the project for non-Medicaid children. Case monitoring includes the process of assisting the child to get to treatment and determining the treatment outcome. The case monitoring effort conducted in this project was the most extensive of any of the EPSDT demonstration projects yet funded by HEW because the children were taken directly to treatment

Table 6.1

Estimated Monthly Costs NCDCA EPSDT (1975 Dollars)
(At Rate of 100 Screens per Month of Medical, Developmental, and Emotional)

(1) Item	(2) Total monthly costs	MEDICAL (3) Total	(4) Out-reach	(5) Screen-ing	(6) Treat-ment	(7) Follow-up	DEVELOPMENTAL (8) Total	(9) Out-reach	(10) Screen-ing	(11) Treat-ment	(12) Follow-up	EMOTIONAL (13) Total	(14) Out-reach	(15) Screen-ing	(16) Treat-ment	(17) Train-ing	(18) Indirect Costs
Director	1,650	330	99	125	50	56	330	17	69	201	43	330	17	33	280	330	330
Secretary	843	169	51	64	25	29	169	9	35	103	22	169	8	17	144	84	252
Driver	920	736	221	280	110	125	0	0	0	0	0	184	9	18	157	0	0
Volunteer Coordinator	1,130	904	271	344	136	154	226	11	48	138	29	0	0	0	0	0	0
Medical Team	4,825	4,825	1,448	1,834	724	820	0	0	0	0	0	0	0	0	0	0	0
Developmental Team	4,414	0					4,414	221	927	2,693	573	0	0	0	0	0	0
Therapeutic Team	4,717	0					0	0	0	0	0	4,717	236	472	4,009	0	0
Training	1,130	0					0	0	0	0	0	0	0	0	0	1,130	0
Gas & Vehicle Maintenance	150	120	36	46	18	20	0	0	0	0	0	30	2	3	25	0	0
In-town Travel	200	40	12	15	6	7	80	4	17	49	10	80	4	8	68	0	0
Out-of-town Travel	50	0					0					0				0	50
Office Supplies	500	150	45	57	23	26	150	8	31	92	19	150	8	15	127	50	0
Educational Supplies	300	30	0	24	3	3	135	0	41	94	0	135	0	27	108	0	0
Health Supplies	45	45	0	36	9	0											
Snack Supplies	50	5		4	0	1	0					45	0	0	45	0	0
Office Equipment	330	99	30	38	15	17	99	5	21	60	13	99	5	10	84	33	0
Educational Equipment	85	0					17	0	5	12	0	68	0	0	68	0	0
Xerox	350	105	31	40	16	18	105	5	22	64	14	105	5	11	89	35	0
Van	100	80	0	48	32	0	0					20	0	2	18	0	0
Consultant	850	0					255	0	51	204	0	340	0	136	204	170	85
Payroll & Audit	250	75	22	29	11	13	75	4	16	46	9	50	3	5	42	25	25
Janitor, Etc.	410	123	37	47	18	21	82	4	17	50	11	123	6	12	105	41	41
Postage	80	24	7	9	4	4	16	1	3	10	2	16	1	2	13	8	16
Telephone	200	60	18	23	9	10	40	2	8	24	5	40	2	4	34	20	40
Printing	300	90	27	34	14	15	90	5	19	55	12	60	3	6	51	30	30
Medical Services	2,526	2,526	0	1,162	1,364	0	0					0				0	0
Rent	560	168	50	64	25	29	112	6	24	68	15	168	8	17	143	56	56
Evaluation and Data Processing	4,000	1,600	0	800	0	800	1,200	0	600	600	0	800	0	240	560	400	0
Overhead	2,000																2,000
TOTALS: Allocated Costs	32,965	12,304	2,405	5,123	2,612	2,168	7,595	302	1,954	4,563	776	7,729	317	1,038	6,374	2,412	
+ Indirect costs		1,198	234	499	254	211	740	29	190	444	76	753	31	101	621	235	
=Total costs		13,502	2,639	5,622	2,866	2,379	8,335	331	2,144	5,007	852	8,482	348	1,139	6,995	2,647	

after receiving permission from the parents.

For the developmental component, the terms defined in the previous paragraph have similar meanings except that the treatment was done by the EPSDT Developmental Team. The proportionate distribution of dollars shown in the detailed activity columns were obtained from activity sheets which each staff member completed once per week, indicating the way the time for each day of the week was split. The proportion of working hours during the time period under study that appeared on those sheets was applied to each person's salary. The total direct dollars (time spent directly on each activity) was computed; then the total indirect time was allocated to each activity in the same proportion as the proportion of total direct dollars in that activity, and then direct dollars and indirect dollars were added to get the total.

The proportions in which the total monthly dollars were allocated are shown in Table 6.2. Each major program area of medical-dental, developmental, and emotional is shown, The "total" columns of each were assessed a proportion of total dollars first. This determines the total number of dollars going to each major area as shown in the "totals" column of Table 6.1. Then the total going to each area was subdivided according to the proportions shown in the remaining columns of that program area. Table 6.2 is included to allow a review of the proportion allocation of time to area of program activity.

Table 6.2
Cost Allocation Proportions

Salaries	$ Monthly	Allocation to Medical: Total	OR	R	T	CM	Dental: Total	OR	S	T	CM	Emotional: Total	OR	S	T	Training	Indirect
Administration General																	
Director	650	.2	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.2				.2	.2
Secretary	843	.2	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.2				.1	.3
Driver	420	.8	(.3	.38	.15	.17)	0	(.05	.21	.61	.13)	.2				0	0
Volunteer Coord.	1130	.8	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	0				0	0
Medical Team		1.0	(.3	.38	.15	.17)	00					0				0	0
R.N.	2201	1.0	(.3	.38	.15	.17)	0					0				0	0
LVN	687																
Records	723																
Social worker	4825																
Educational Team																	
Teacher/testors	610						1.0	(.05	.21	.61	.13)						
Social worker	4414																
Therapeutic	4717	0					0					1.0	(.05	.10	.8)		
Training Director and trainees	1130															1.0	
Travel																	
Gas & Vehicle Management	150	.8	(.3	.38	.15	.17)	0	(.05	.21	.61	.13)	.2	(.05	.1	.8)		
Staff travel in-town	200	.2	(.3	.38	.15	.17)	.4	(.05	.21	.61	.13)	.4	(.05	.1	.8)		
Out-of-town	50																1.0
Supplies																	
Office	500	.3	(.3	.38	.15	.17)	.3	(.05	.21	.61	.13)	.3	(.05	.1	.8)	.1	0
Education	300	.1	(0	.8	.1	.2)	.45	(0	.3	.7	0)	.45	(0	.2	.8)		
Health	45	1.0	(0	.8	.2	0)	0					0					
Snacks	50	.1	(0	.9	0	.1	0					.9	(0	0	1.0)		
Equipment																	
Office	330	.3	(.3	.38	.15	.17)	.3	(.05	.21	.61	.13)	.3	(.05	.1	.8)	.1	0
Education	85	0					.2	(0	.3	.7	0	.8	(0	0	1.0)	0	0
Xerox machine	350	.3	(.3	.38	.15	.17)	.3	(.05	.8	.61	.13)	.3	(.05	.1	.8)	.1	
"Donated van"	100	.8	(0	.6	.4	0)	.8					.2	(0	.1	.9)		
Consultant	$ 850	0					.3	(0	.22	.8	0)	.4	(0	.4	.6)	.2	.1
Payroll preparation	100	.3	(.3	.38	.15	.17)	.3	(.05	.21	.61	.13)	.2	(.05	.1	.8)	.1	.1
Audit	150	.3	(.3	.38	.15	.17)	.3	(.05	.21	.61	.13)	.2	(.05	.1	.8)	.1	.1
Janitorial & Maintenance	410	.3	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.3	(.05	.1	.8)	.1	.1
Postage	80	.3	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.2	(.05	.1	.8)	.1	.2
Telephone	200	.3	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.2	(.05	.1	.8)	.1	.2
Medical Services Screening and Medical/Dental Treatment	2,256	.3	(0	.46	.54	0)											
Rent	560	.3	(.3	.38	.15	.17)	.2	(.05	.21	.61	.13)	.3	(.05	.1	.8)	.1	.1
Evaluation & Patient Oriented Data Processing	4,000	.4	(0	.5	.0	.5)	.3	(0	.5	.5	0)	.2	(0	.3	.7)	.1	0
Overhead Costs of Supervisory Agency	2,000	0					0					0				0	1.0
Printing	300	.3	(.3	.38	.15	.17)	.3	(.05	.21	.61	.13)	.2	(.05	.1	.8)	.1	.1

Discussion of medical costs

The largest single component of medical cost is the screening cost at a total of $5,622 per month. Assuming a rate of 100 screens per month would mean $56 per child screened per year. One reason this is so high is that the dental component is included wherein each child was sent to the dentist's office and the project was charged $30 per child for x-ray, cleaning, and fluoridation and exam for non-Medicaid children (one-half the children). Therefore, at least $15 out of the $56 was for dental work, which means that $41 would be the medical cost more comparable to other projects. A prioritization of children needing dental treatment by a part time hygienist, cleaning the teeth at the project site, and a fluoridation-brushing program in the Day Care Association could have been accomplished for half the cost of sending children to a dentist. Also included in the cost is the allocated cost of evaluation and data systems. This cost was estimated by assuming that an on-site evaluator was necessary to assist in data collection for routine program management, as well as to assist with the monitoring of the data results of the developmental testing. Also, $18,000 to $20,000 of data processing and analysis would be required for program management. If this expense were to be eliminated, an additional $8 could be removed from the screening amount, giving a total of $33 per child screened. Perhaps the cleaning and fluoridation should not be charged to the screening cost, but dental screening without sending the child to the dentist would have been much cheaper.

The outreach and follow-up costs in any program will depend upon the intensity of the outreach and follow-up effort. The follow-up conducted by the NCDCA EPSDT staff was among the most intense conducted anywhere, and the out-

reach took more time than originally planned due to difficulties in finding the mothers at home and getting permission for the screening. Once mechanisms could be worked out to get all necessary permissions, data, Medicaid numbers, etc. at the time of intake into the Day Care Association and if screening could be conducted relatively soon thereafter so that the Medicaid number would not have expired, the cost of outreach would be reduced by over one half--only the cost of transporting the children to the site of screening and to completing the required paper work in preparation for a screen. The cost of outreach would be approximately $8-$10 per child screened in that instance. The cost of follow-up could not be reduced unless more on-site treatment or diagnosis were available--especially for dental, hearing, and vision problems--so the $24 per child screened would be the cost for follow-up. The cost of outreach and follow-up was equivalent to the cost of the screening as the project was operating.

The direct personnel cost for the outreach, screening, and follow-up activities of project staff directly involved in the activity (medical team) and the physician and dentist contribution to the screening was only 50% of the total non-treatment direct and indirect cost necessary to conduct the effort. Also, the screening only portion of the direct personnel cost of screening, outreach, and follow-up was 57%. As a rule of thumb, if the direct personnel cost is figured for conducting screening only, then one must multiply by at least 3.5 in order to compute the total funding necessary to cover the total expense.

The project had to pay for a great deal of the dental and medical costs for the non-Medicaid children. This amounted to $29 per child screened (both

Medicaid and non-Medicaid). Since approximately half were on Medicaid, perhaps a total cost of $60 per child screened should be projected for determining per capita costs when the treating physician or dentist were to submit a bill and that bill were to be paid. As pointed out later in this chapter, neither of these actions seemed to take place at a high rate in the Medicaid system, so the actual Medicaid payments were minimal in comparison to ongoing costs of the previous year.

In summarizing the medical component costs the following rule is stated: Compute the expected cost of the direct personnel cost required to carry out a comprehensive screen. Then multiply by at least 2 to get the full costs of supporting the activity with space, supplies, and supervision. Then multiply the result by 1.75 to estimate the total cost which includes outreach, screening, and follow-up. (The outreach cost could be reduced by $15 per child screened by using methods that minimized direct parent contact). Then add the treatment cost, which could be as high as $60 per child screened (including dental) if all problems referred result in a bill that is paid in full and on a timely basis (but be aware that many never get billed and paid in a third party payment system).

Developmental Costs Discussion

The total developmental screening cost was approximately 38% of the medical-dental screening cost, but it was assumed that only half the children received a complete developmental screen. Actually, during the time period in question, only one-fourth received a complete developmental screen (the after-school children were not the appropriate age for the screening), but there was both

pre- and post-testing for the pruposes of evaluating treatment effectiveness, bringing up the screening activity to approximately half the volume of the medical screening. Each child getting the screen incurred a fully allocated cost of $42 per child, but since only the equivalent of one-half were screened, the cost per NCDCA child was $21. The outreach, which included getting the screener to the classroom, was only $3 per child in day care because the Medicaid numbers were not crucial and the medical forms already contained necessary permissions and intake data. As a result, the $6 per child outreach is a better estimate of the marginal outreach cost for the developmental.* The follow-up did not require a great deal of effort beyond checking records because the D team provided the treatment. In the case of developmental, outreach and follow-up required about half the cost of the screening. Treatment for children in the experimental groups (getting one-to-one treatment) and for providing written guidance to the teacher treatment group cost approximately $100 per child given a developmental screen. As pointed out in the findings however, this cost could be reduced to only $20 per child screened for developmental (or $10 per child in NCDCA) through elimination of the questionably effective one-to-one treatment methodology.

It is estimated that the total cost of developmental outreach, screening, treatment, and follow-up could have been accomplished (with what is now known) for $36 per child in NCDCA, although the actual cost was $82 per child, if the child was in a day care setting.

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*i.e., savings to be realized if the developmental component were dropped from a Medicaid only screening process.

Emotional Treatment Costs

The emotional checklist was designed so that many children could be observed at the same time, and on several occasions by trained, and experienced, but not highly paid observers. The screening cost was, therefore, quite low in comparison to medical or developmental which required one-on-one for many persons to screen one child. Since approximately half the children were in pre-school, it is assumed that one-half as many got an emotional screen as got a medical screen. The screening cost is then $22 per child getting an emotional screen or, $11 per child enrolled in NCDCA. The outreach was similar to the developmental, so was priced at $3 per child in NCDCA or $6 per child to be screened. This included transportation, coordination with center directors, and preparation of appropriate paper work. The treatment was expensive at $140 per child getting an emotional screen, or $70 per child in NCDCA. If treatment had been limited to roving teacher and a small therapeutic nursery school, the treatment cost would probably be more like $50 per child in NCDCA. Although this component is costly, the special room is needed for children whom regular teachers cannot control. However, the benefits of a complete screening effort and treatment in general could not be statistically determined.

Summary of Costs of the Project

When the total costs of what the program could do under some refined procedures in an optimal comprehensive child health environment are added, the total comes to approximately $181 per child enrolled in the target population of NCDCA. This is a minor amount of money considering the completeness of the dental care received, the availability of treatment, the developmental and emotional components and considering that day care costs approximately

$2,300 per child, per year. Therefore the cost would be only 8% of the total day care budget with a hopeful reduction in costs in the dental as more children complete their second and third screens.

Impact on Medicaid Treatment Costs

From the beginning of the EPSDT program, there has been concern about the extent to which a program of screening would result in increased treatment expenditures being paid by Medicaid. The extent of the impact will depend upon such things as the level of treatment being provided by the Medicaid agency prior to the beginning of the program, the rate of positive findings in screening, the rate of shows for treatment and the extent to which treatment providers are successful in submitting claims and getting paid for those claims. The study of the Medicaid cost impact presented in this chapter was preceded by a small pre-test study completed in March 1976 for the purpose of determining the feasibility of a larger sample. In that earlier study it was found that screening had essentially no impact on the total dollars paid out per child per year and, if anything, costs were reduced by at least $30 per child over and above what would have been expected given a rate of inflation. However, the sample study contained only 51 children and was heavily weighted toward children with problems found in screening. This chapter will present the study methodology, the findings, and a discussion of the results of a larger sample which was representative of the screened population.

Methodology

The children screened in the National Child Day Care Association between September 1975 and March 1976 were chosen for the cost impact studies because this period was the first period of refined screening and well funded follow-up.

During this time, 493 children were screened who were in pre-school and after school day care centers; of this group, 157 had Medicaid numbers available at the time of the screen (even though more are known to have been on Medicaid according to the project intake data.) The names and Medicaid numbers were submitted to the Department of Human Resources (DHR) with a request for all of the payments for physicians, drugs, hospitalization, dentists, etc. for 1974, 1975, and 1976. Data was received in June 1977 from DHR which included Medicaid payments for 124 of these children for the period of July 1975 through August 1976 who had Medicaid paid claims of some kind. It is not clear whether the 33 children for whom no files were returned represent faulty Medicaid numbers on the HSRI data system or whether the children actually had no medical payments in their behalf. It is generally estimated that 80% of the eligibles receive Medicaid services during a given year. Since the 33 missing cases represent 20% of the children who were screened and eligible, it seems likely that the children whose files were missing were eligible, but were not recipients during the time period under study. The records also contained the dates of eligibility for the children enrolled. Only two children lost eligibility during the 14 months of Medicaid data included.

The information from the list of paid claims was linked to the information in the HSRI data system about the child and the screening results. A code sheet was utilized in which the following information about each child was coded:

1. Age (children's age in years ranged from 6 to 14).
2. Whether or not the screen was original or periodic.
3. Whether the charge for the screen was included in the file. The pro-

ject completed a form for each screen and submitted it to DHR who, in turn, reimbursed the pediatrician conducting the screen. Not all screens were submitted however.

4. The total number of referrals for the child.
5. Whether or not there was a referral for hearing, vision, or dental.
6. Whether or not there was a referral for other than hearing, vision, or dental.
7. Whether or not the condition referred was false positive. (Coded as some, all, or none of the conditions referred were false positive).
8. The number of months between July 1, 1975 (the first Medicaid data available) and the date of the screen.
9. The number of months between the date of the screen and August 31, 1976 (the last date of service in the Medicaid data provided).
10. The dollars paid for medical and dental care between July 1, 1975 and the date of the screening. The $28 charge for the screen, when it appeared, was not counted in the payments either before or after the screen; however, the $25 charged by the dentists conducting dental exams was included as will be explained later.
11. The dollars paid for medical and dental care by Medicaid for services rendered between the date of the screen and August 31, 1976. This data was then stored in a computer (using APL). The key dependent variables were computed--the dollars per month prior to screening (Item 10 above divided by Item 8), and the dollars per month after screening (Item 11 divided by Item 9). Also the difference between the dollars per month after screening and the dollars per month before screening was computed

and used as a dependent variable. Correlation and regression was used to determine the variables that related to the difference between the dollars per month after screening and the dollars per month prior to screening. Cross tabulations were also prepared for each independent variable.

Findings

The findings given here relate to those Medicaid claims actually reviewed. As pointed out earlier, 20% of the Medicaid eligible children had no claims before or after screening. The findings here relate only to Medicaid recipients. The results are shown in several of the tables of this chapter. Table 6.3 summarizes the statistics of the dependent and independent variables. As shown in Table 6.3, the average age was 6.19 years, with an equal distribution of children between ages 3 and 12. Only 41% of the children had Medicaid payments of $28 for the screen, so either the project did not submit all the claims under the numbers we had available, or the claims processing did not capture these forms. In the Medicaid recipients of the sample, 34% were referred from screening for either dental, hearing or vision problems. There was an average of .69 referrals per child, with 58% of the children having no referrals. Original screens were indicated in 56% of the children. There was an average of 6.51 months prior to screening and 7.45 months after screening included in the data. The overall result shown is that the dollars per child month dropped from $17.07 prior to the screen to $15.88 after the screening. This is similar to what was found on the small pre-test.

The children in the project were all sent to a private dentist for an examination, fluoridation, treatment, and cleaning of the teeth. If the child

Table 6.3 Statistics Surrounding the Major Variables Involved in the Study of Cost Impact of NCDCA EPSDT on Medicaid Treatment Cost (1975 Dollars)

N = 124

Variable	Average	Standard Deviation	Median	Comments
Age	6.19 years	3.33	5	(Equal Distrib. ages) 3 to 12
Charge (1 = Charge) (0 = No Charge)	.41*			73 - No 51 - Yes
Referred for hearing, vision, or dental (1 = Referred for any) (0 = Not Referred)	.34			
Total Conditions Referred (Conditions per Child)	.69			
Original Screens (1 = Original) (0 = Periodic)	.56			Orig - 69 per - 55
Months before screen	6.51	2.46	7.5	
Months after screen	7.45	2.52	6.5	
$ per person before	$101.80	192.98	45.1	
$ per person after	$123.42	245.11	48.99	
$ per child month before	$ 17.07	33.16	6.99	
$ per child month after	$ 15.88	30.08	6.39	

Distribution of Conditions Referred per child in the Sample

# Ref	Freq	%
0	72	58%
1	24	19%
2	23	19%
3	4	3%
4	1	1%

*An average of .41 in a "dummy" variable means that 41% had a charge.

was on Medicaid, the dentist was supposed to bill Medicaid directly. The amount paid by Medicaid for the examination was $25. Since it was difficult to tell whether or not minor treatment took place at the visit, the charge was left in as treatment. But, if the charges that were submitted for the dental examinations that children received ($25) from Medicaid providers are subtracted from the monthly averages, the amount before and after screening became $16.61 and $15.07 per child month respectively. In light of the large standard deviations involved in each average, however, it can be concluded that the overall dollar impact on treatment costs was negligible. This is especially encouraging in light of the more than 12% inflation rate that took place in medical care prices during the year.

This surprising finding must be qualified or explained in several ways, including the dental situation, the large expenditures for a selected few children, and the important independent variables.

Dental Costs Qualification

The dental problem was that those children with dental referrals recorded on the screening sheet seldom had any dental claims after screening. In the 18 children with a dental referral indicated on the screening sheet, only two had a payment in the file ($11 and $120). However, as mentioned earlier, the $25 payments for dental examinations appeared in 46 children out of the total of 124 in the sample. Of these 46, 24 had only the $25 payment and 19 children had a payment greater than $25 which, among the 19 children, averaged $59.68 (or an additional $34.68 after the $25 examination payment). The remaining four children had payments to dentists of less than $25. This is summarized in Table 6.4 There were 25 children who had their original screen and had

Table 6.4 - Summary of the Payments Made to Dentists Among the 124 Children in the Sample.

Item	No of Children	Average Dollars per child
No payments to dentist.	78	0
Payment to dentist for exam only (18 after the screen).	24	$25.00
Payment to dentist for exam plus treatment.	19	$59.68
Payment to dentist for work, but no exam.	3	$ 8.00
	124	

some dental payments in their Medicaid claims file. Of these 25 children, 88% had no dental charges prior to the date of screening indicating that the project did have an impact on getting children to a dentist, but that apparently the results of the examination did not always get recorded in the screening data system. Since so many children with dental referrals indicated on the screening did not have payments, the statement of no Medicaid cost impact must be viewed with caution since each referral had a possibility of a $60 payment had the referrals appointments been kept, claims been submitted, and payments made.*

The full $60 would not be the Medicaid differential on a per child screened basis, however, because less than 40% had dental problems found in screening. The maximum potential cost impact of dental problems could be estimated by multiplying the $60 by the expected number of children out of those screened, to get to treatment. For example, if 30% had a dental problem and 80% of those showed for treatment, and 90% of those got adequately processed through the payment system, the impact on the cost of children with original screens would be ($60 x .3 x .8 x .9 =) $12.96 per child screened, per year at the most. Therefore, the dental treatment costs, when spread over the entire number screened doesn't appear to be as bad as some opponents of the program expected. This $12.96 converts to a $1.85 per month difference if the seven months after screening is considered.

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*During a presentation of these results, a Medicaid provider in the Washington, D.C. area stated that it had taken, in the past, up to five years to get claims back from DHR and that many providers would simply rather do the work for free than go to the trouble of submitting claims.

The Variability of Cost Qualification

The high variability in costs indicated by the high standard deviations shown in Table 6.3 and differences in cost (cost per month after screening minus costs per month before screening) means that, while many children have no costs, a few have large costs. The costs of children with more than $500 prior to screening and/or $500 after screening were reviewed to determine the conditions causing the large expenditure. The DHR diagnosis codes were available for physician claims, but the procedure codes for the inpatient activity were not always clear indicators of the nature of the problem. Based on a review of the entire set of physician and drug billings for the child, it was concluded that the following were the probable diagnoses. Each line represents a different child. The starred items were probably a result of EPSDT referral.

Costs prior to Screening (Greater than $500)			Costs after Screening (Greater than $500)		
$	Probable Diagnosis	Cost for Same Child After Screening	$	Probable Diagnosis	Cost for Same Child Prior to Screening
$748.00	Fracture	0	$1,624	Ear Problem	95
992.00	Fracture	0	1,041*	Vascular lesion	96
680.00	Ear Problem*	7.00	757*	Circumcision	48
566.00	Eye, Shoulder Problems	154.	1,102	Influenza	0
			730	Influenza	1,335
518.00	Hosp. 5 days, Diag. Unkn.	11.	892*	Tonsillectomy	207
			561*	Pulmonary Prob.	42
1,335.00	Influenza	730.	931	Myringotomy	79
571.00	Diabetes	183			
$5,410.00	Total (vs. $12,524 claims) for all		$7,638	Total (vs. $15,252 for all claims)	

*Probably screen-related.

Table 6.5 shows the correlation matrix of selected variables and the final regression equation for the data on all 124 children and then the regression results for just those children with differences within $50 per month. The only variable that related to the size of the difference (after-before screening) was the previous level of payments. In some respects, this may be a tautology in that the larger the amount of payments before screening, the more likely the decrease, given the random fluctuation in high costs pointed out earlier in the chapter. The instance of a referral for hearing, vision, or dental problems appeared to have some independent influence on the differences. This overall data for those with referrals as compared to those without referrals are as follows:

Referral Status (On Screening Sheet)		Monthly Cost Before Screen		Monthly Cost After Screen
Referred for Hearing Vision or Dental	Mean	$19.49	----------	$21.76
	Std. Deviation	32.15		38.35
	Median	$11.37		7.97
	Sample Size	54		54
Not Referred for Hearing, Vision, or Dental	Mean	$15.32	----------	$11.63
	Std. Deviation	33.99		21.64
	Median	6.07		5.7
	Sample Size	72		72

*Table 6.5 Statistical Results of Multivariate Analysis to Determine the Relationship of Cost after Screening versus the Costs before Screening to Selected Independent Variables.

DIFFM = (Monthly costs After screening - Monthly costs before Screening)

MON B = (Monthly costs before screening)

REF = "1" if the child was referred for dental, hearing, & vision.

"0" if not referred for those above conditions.

AGE = Age in years at the time of the screen in question performed between September 1975 and March 1976.

ORIG = "1" if original screen was in the above time period.

"0" periodic screen was in the above time period.

Correlation Matrix:
(N = 124)

	DIFFM	MONB	REF	AGE	ORIG
DIFFM	1.00				
MONB	-0.69	1.00			
REF	0.06	0.21	1.00		
AGE	0.05	-0.41	-0.02	1.00	
ORIG	-0.06	-0.007	0.06	-0.09	1.00

(Other Variables considered had correlations below .05)

Regression Results: DIFFM = 13.4 -.85 MONB $R^2 = .48$ $F^1 = 111$
(t statistic on paren.) (4.4) (-10.5) 122

DIFFM = 10.9 -.88 MONB +8.57 REF $R^2 = .49$ $F^2 = 57$
(3.19) (-10.7) (1.5) 121

If consider only cases with differences less than 50 and more than -50:

DIFFM = 4.28 -.65 MONB +2.3(ORIG) $R^2 = .49$ $F^2 = 51$
(3.12) (-9.99) (1.41) 105

Those children with a referral had a median monthly cost before screening that was higher than those with no referral ($11 versus $6). The median dropped after screening both for those children with referral and those with no referrals. The standard deviations are so high that it is difficult to conclude anything about the monthly averages if these averages are to be inferred to any other years of activity. Of course, for children screened at National Child Day Care Association, this is "population" data. The average costs of those referred did increase slightly, where the average declined among those not referred.

Conclusions Concerning Medicaid Payments

The Medicaid payment claims for all 124 Medicaid children with Medicaid profiles and screened in the National Child Day Care Association between September 1975 and March 1976 were studied to determine the impact of the project on the payments made to physicians, dentists, outpatient clinics, and hospitals in behalf of the children. It was found that because of a low rate of dental referrals getting paid claims in the file, and most importantly because of the random nature of the many high cost expenditure items, there was a negligible overall impact on the Medicaid treatment payments to providers. Other agencies may have absorbed the cost due to poor billing, but nevertheless, the Medicaid treatment costs are, if anything, lower after the screening in spite of a general 12% inflation in medical care prices.

Such problems as fractures, diabetes, and influenza, which lead to hospitalization, will not be affected by EPSDT but can happen randomly in a small sample--distoring the overall picture of the EPSDT cost impact. In fact, unless EPSDT can act to reduce the rate of hospitalization for accidents, flu, uncontrolled diabetes, etc., it is unlikely the short term cost reductions can occur.

Chapter Conclusions

The costs of the program were studied as well as the impact on the Medicaid treatment costs. The medical screening which included visits to the dentist for dental screening had a cost of $56 per child in the target day care population. Removal of the dental costs would reduce the full screening cost to $41 per child. The outreach and follow-up costs were similar at $41.00. The treatment costs were projected to be $60 per child screened. However, the Medicaid impact study revealed that many claims were not submitted or bills not paid and the impact on overall Medicaid costs was undetectable--partially due to the random nature of certain high cost items like fractures, influenza, etc.

The developmental component could be replicated (in a refined version, leaving out the one-to-one treatment) for approximately $36 per child in the target population (or $72 per child eligible for developmental screening) and the emotional component could be replicated for approximately $64 per child in the target population of a day care association similar to NCDCA (or $128 per child eligible for emotional screening).

The total cost of replication in the total target population would cost less than 8% of the budget of the Day Care Association and provides an optimal program for the total medical, dental, developmental, and emotional health of the child.

CHAPTER 7

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The written word can only capture a part of the flavor of a project in which so many dedicated persons worked hard to help inner city children gain a foothold in a ladder of success which could help them function at maximum potential as they enter and remain in the school system. This chapter will summarize the problems and successes of the project by first addressing the questions and goals stated in Chapter One. Then, moving through each major topic area of the report, we will summarize the findings and make recommendations that can apply to local, state, and federal program administrators about EPSDT conducted in an optimal manner within a day care association.

Questions and Goals from Chapter One

The questions stated in Chapter One will be restated, along with the answer, from the evaluation perspective.

Question: Can EPSDT outreach (getting children to the screening), and case monitoring (getting children treated and rescreened) be accomplished by linking day care centers?

Answer: Yes, the captive population in an organized setting means that approximately 85% of the eligible children will be screened, and that 80-90% of the problems can get to treatment. The cost of reaching such a high percentage of the eligibles is reasonable if maximum effort is made to get the Medicaid number, the child history, and permission at the time of intake so that mother interaction is minimized. One problem in day care outreach is that all children

must be served regardless of Medicaid eligibility*. Since only 50% of the children's mothers had current Medicaid cards, the other half of the children had to be screened in order to obtain a high participation rate among the Medicaid children. Perhaps, in the future, parents could be asked to pay a sliding scale fee for the service, with Medicaid children getting their physicals free. It should be pointed out, however, that even paying the outreach and screening cost of children not on Medicaid could be cheaper than paying the outreach cost for just the Medicaid children when trying to recruit an equal number of children outside the Day Care Association. Therefore, flexibility in local and EPSDT unit contracting is needed.

The direct follow-up worked well, especially when mothers' permission was obtained in advance for treatment of minor problems. There was a great deal of staff effort required on the part of the medical team nurse, nurse aide, social worker, and driver (two mini-buses) to get parental permission, arrange treatment, transport to treatment, and follow-up on treatment compliance.

Linking up with a day care center increases effectiveness of EPSDT for the Medicaid eligibles in day care, but it cannot be done without extensive staff available (three or four full time equivalent persons in direct staff alone for medical screening) per 750 children. However, due to the ability to have block appointments, and an EPSDT person present at treatment, the cost is much less than would be under any other mode for the same rate of treatment as achieved during the third year of the project.

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*Since the Day Care Association did not want to work only with Medicaid children because it would label them as different.

Question: What are some ways and costs of dealing with the developmental and emotional aspects of the children seen at the time of screening, and could this be aided through linkages to a day care association?

Answer: The developmental and emotional aspects were handled differently, and in this project the screening for both were conducted separately from the medical screen. However, a culturally fair instrument was developed that could, with modifications to local norms throughout the country, be used in conjunction with medical screening since it can be accomplished in 20-30 minutes, depending upon the age of the child. It covers the areas of cognition, language, memory, and visual motor development. Although the screeners were not M.S. or Ph.D. psychologists, they did have some training in early childhood development, and adapted very well to the instrument. Once the screening was conducted, recommendations could be given to the teachers for helping the child to develop those conceptual areas wherein the child was slower to develop than his or her peers. Also, one-to-one treatment was tested as a method of helping individual children. The one-to-one treatment seemed to provide more help than teacher treatment, especially in the area of cognition. The overall effect could not be experimentally verified since a group of children not getting treatment, but located in day care, also improved without any known special intervention. It is possible that the activities of the developmental team provided an example to the teachers of what to do to encourage development in this area.

The project had a developmental advisory board which reviewed the developmental activities each quarter. This helped to ensure acceptance of the sensitive process of developmental screening.

Question: How to work with schools?

Answer: During the last part of the third year, and for all of the fourth year project, screening was conducted in the public schools. Schools were

selected that had almost no ongoing health program and a high concentration of Medicaid eligible children (over 50%). It was found helpful to show the faculty and administration a film about the project (30 minutes in length) to resolve questions about the procedures to be done. Coordination with the teacher was made to ensure that the children would be present on the selected days. Then the blood would be drawn on one day, and the physical and other procedures conducted on another day. The parent was not required to attend when the screening team was in the school. A form was sent to the parents requesting information about the child's health history, utilization of medical services, and immunization status. If the form was not returned, the project staff tried to contact the parent directly. The major point learned by the staff was that the best time to conduct screening was between October and February because the early part of the school year was busy for the teacher, and screening too near the end made follow-up difficult.

The immunization records were not up-to-date in the schools selected, and the parents could not remember when or if the child had been immunized. Therefore, it was difficult to assess the child's immunization status. The project's medical advisory board recommended that no immunization should be given unless the record had been checked, so the immunization status could not be upgraded by the project nurses.

The exact cost of school screening was not computed, but the outreach cost was quite low ($3-$5 per child) when parents cooperated in returning forms, and the nearly 1,000 children were screened with very little additional staff over that required for the day care children (an additional nurse, part-time nurse practitioner, nurse aide, and medical social worker). The school children were also taken to the dentist for preventive and restorative dental treatment. This was time consuming and expensive, but much appreciated by the school.

Question: What are the possibilities of paraprofessional training and utilization of paraprofessional staff in such a project?

Answer: Two groups of six persons with high school education only were paid minimum wage to attend a training program lasting six months in which they were given didactic and on-the-job training in day care policies, general child development, medical screening and first aid, developmental treatment, and emotional treatment. Observation by impartial observers, as well as comments by supervisors, showed that these persons worked very well, under supervision, in the various areas of project activity. Utilization of a combination of professionals and well trained paraprofessionals is the only way comprehensive child care programs can be conducted at reasonable expense for the large number of children in need.

The project goals will now be restated along with summarizing evaluation comments:

1. To demonstrate an approach to an improved delivery system for EPSDT programs by coordinating EPSDT with an ongoing day care system.

The Department of Human Resources in Washington D.C. was only documenting 7,104 screens per year prior to the start of the project out of 65,000 Medicaid eligible children. Of those screened, the developmental and emotional component was not well specified. The NCDCA was able to screen at the rate of 1,343 children per year--85% of their target population of Medicaid children. Both Medicaid and non-Medicaid (50%) children were screened in eight preschool centers and, due to NCDCA eligibility standards for preschool and after school day care, most were low income and also in need of the services. Dental screening and treatment was significantly increased in the population because minimal dental treatment was previously conducted. The evaluation team was unable to get

comparative treatment data from other DHR clinics, but the treatment rate (especially for vision and dental problems) was much higher than has been shown to be the case throughout the country because the project staff took the children directly to the diagnosis and treatment site.

2. *To provide screening, diagnosis, and treatment of eligible children in the project target population.*

Children were screened, diagnosed and treated from the very beginning of the project. The thoroughness of screening and rate of treatment improved to a maximum in the third year when all but 4 or 5% got all the screening procedures, 74% of all the referral problems got to diagnosis or treatment, and 68% of the true problems either completed treatment or were still in treatment six months after the screening date.

3. *To provide a program that will identify and assess preschool children with developmental problems and enable them to receive help while still enrolled in day care centers. This component is designed to help the child learn and profit from the regular day care classroom and later from the public school system. It will involve families in the treatment of their children and will train and involve regular day care staff in the treatment of children needing special help.*

This program was carried out with a great deal of zest by the developmental team of four persons trained in the area of child development. While day care center staff was reluctant to participate at first, they became more responsive as the staff explained their goals and the center teachers saw the "D team" could help them in helping the child. Over 400 children were given at least one developmental screen, and 21.9% were found to have delays in one or more of the areas of testing which included cognition, memory, visual motor and language.

A total of 9.8% had delays of six months or more in three or more areas indicating priority children for special attention. Since each child develops at his own rate, those who are below their peers may suddenly catch up on their own, but some don't, and since no one can yet predict who won't, special tasks and games designed to help the child develop concepts such as sequencing, classification, etc., are possibly helpful.

4. To design the program so as to achieve maximum effectiveness as a demonstration of cost-effective, efficient delivery system for EPSDT services, and to provide a basis for evaluating the impact of this effort.

Project personnel were interested in maximizing effectiveness of their efforts and keeping costs at a minimum. This required constant managerial attention to the allocation of staff time to the high priority goals, constant seeking of appropriate laboratory and dental care possibilities, and reasoned changes in priorities of effort (flexibility).

As examples of the eye toward cost effectiveness, the impedance bridge was introduced to save time in medical screening and reduce follow-up time spent on hearing false positives and the DSA (the Developmental Systems Analysis--the developmental screening instrument) was revised to get the screening done in less time.

The dental screening and treatment posed a constant problem in achieving cost efficiency. DHR policy was interpreted as meaning that dental screening should be done by a dentist and each child needed cleaning and fluoridation. Also, there was a desire on the part of many that the private sector be maximally utilized for treatment purposes. However, when the project began, there was only one dentist serving Medicaid children in the Model Cities area. During the first year, dental students from Howard University provided the screening, but treatment

was difficult to obtain. On the other years of project activity, a contract was made with a private dentist to both screen and treat Medicaid as well as the non-Medicaid children in block appointments. The dentist was to bill Medicaid for the Medicaid eligible children, and bill NCDCA for the non-Medicaid children. Very few preschool children had ever received dental care, and many problems were found. The charge for the initial examination, bitewing X-ray, cleaning and fluoridation was $30, with treatment costs paid in addition. According to the Medicaid beneficiary profiles, only 50% of those visiting the dentist had problems requiring treatment. In this case, the $30 per examination may be excessive over what could be accomplished by a dental hygienist using an on-site dental chair. Although follow-up costs could be reduced in cases where the examining dentist began treatment on the same day, all children had to be transported to the dentist's office for the screen. If a child developed a long-term dentist/patient relationship, there may be desirable long-term effects, but for the purpose of ensuring that all children with serious problems are treated first and those needing preventive dental health education get a full presentation along with appropriate cleaning and fluoridation, the job could be done more cheaply at the project site along with the medical screen by a part-time dental health educator and/or technician. On-site examinations could be accomplished for one-half the cost of a private M.D. examination at the $30 rate. The service itself of cleaning and fluoridation may not be that much cheaper, but the transportation cost of getting all children to a separate private dentist is what tips the scale in favor of a local special dental screening set up.

The cost of the medical screening (without dental component considered) is around $30 per child, which, for the procedures accomplished, seems reasonable in

comparison to other demonstration projects. The outreach costs were nearly half of those expected under a non-day care population, and the follow-up cost was somewhat higher than other projects, but much higher rates of treatment resulted.

The efficiency of the developmental component and the emotional component are difficult to estimate because there are very few programs serving a comparable group of children. However, it was found that the roving teacher concept of emotional treatment within the day care classroom is an equally effective method for dealing with many children's emotional problems as the more costly therapeutic nursery school staffed at two or three staff per seven children each morning for 30-40 weeks. One roving teacher could serve 7 to 10 children for 20 weeks and still spend time in other activities such as screening for emotional problems.

The children with primarily developmental problems were found to do better under one-to-one tutoring for cognitive problems, but for many other problems, the teacher can be informed as to the child's potential problem and trained in appropriate methods for presenting special opportunities to allow the child to achieve the developmental milestones.

If the child is in a day care center anyway, then the additional cost that Medicaid could incur in day care are as follows: In terms of medical screening, assume that the outreach costs in day care to be reduced through obtaining an available Medicaid number from DHR and obtaining mothers permission at day care intake, then outreach costs, including transportation of children, would probably be $5 per child to be screened. If the medical screening were able to be reduced to $30 including on-site dental screening, education, cleaning and fluoridation, each child in day care could be outreached and screened for $35. Assume that 60%

were eligible for the Medicaid Child Health Assessment. Then it would cost $\frac{\$35}{(.6)}$ = $58.33 per Medicaid eligible child for outreach and follow-up. However, if the same children were to be outreached through the homes to separate screening clinics, it is estimated that it would require $39 per child for outreach (cost at Inman Christian in San Antonio, Texas x 1.3 for salary level differences) and another $30 for equivalent screening, giving $69 per Medicaid child. Under such a situation, the non-eligible children could not get treatment paid by Medicaid, but perhaps other funding sources (sliding scale, DHR, community agencies) could cover those costs. As can be seen, the screening of Medicaid eligible children through day care is not cheap, but for the purposes of fully covering the eligible population, a payment to a day care center of $60 per Medicaid child outreach and screening and $20 per Medicaid child for follow-up efforts under a fixed price contract should be sufficient to entice the Day Care Association to make an effort in which they would screen all children and ensure treatment and reporting only for the Medicaid eligible children.

5. *Arranging screening, diagnosis, and treatment of eligible children in the project target population in conjunction with the District of Columbia, Department of Human Resources, and selected D.C. public schools.*

During the last two years of the project, the public school screening goal was entered into the list of the goals as a part of the American Bicentennial Expansion of the project. During the first year of school attendance, activity was limited to the last few months of school operation, so there was a trial period. Then, in the last project year, *600* children were given medical screening by the medical team and taken to private dentists for dental screening and treatment. Implementation was discussed earlier in the chapter. Whereas 80% of the children in the preschool were age four and five, 80% of the public

school were age 6-12. The rate of referrals per screen were higher in the older age children than in the younger children. Less than 20% had ever been to the dentist. It was felt that the school screening was a highly worthwhile venture.

6. Providing a program that will identify, assess, and treat preschool children with developmental problems, and involving families in the treatment of their children needing special help.

The majority of the preschool children were completely assessed on multiple occasions due to pre- and post-testing conducted by the developmental team, and treatment was conducted as described earlier. The role of the parent was recognized as important for reinforcement of the learning stimulation provided by project staff, but parent attendance at meetings was sporadic. Finally, a rule that the child would be dropped from treatment if the parent missed three sessions was instituted. Three children were dropped. Whereas these children are probably the ones needing the greatest long-term attention, the staff felt that the scarce manpower should be allocated to those children who could be helped most in a short time.

7. Coordinating a program with the D.C. public schools that will identify and assess children ages 6-14 with developmental problems and enable them to receive treatment while still in school, utilizing project, DHR, and public school resources, and involving parents in the treatment of their child.

The evaluation team was involved in the design and analysis of a feasibility study and analysis of findings. However, the results are presented well in the project final report. The major result is that the schools were already giving enough standard tests to know the children with achievement problems, so it was decided that screening was not necessary. Instead, diagnositc testing of teacher-identified children and an individualized tutoring program was needed. This was

initiated, but had only been going for three months at the end of the project--giving insufficient time to make statements about reasons for improvement.

8. Providing a program that will identify and assess preschool children with emotional problems, and to determine which of the two models of treatment (the traditional medical model of the Therapeutic Nursery School or the Mainstream Model) will best meet the needs of the individual child and will be most cost-effective.

As discussed earlier, the roving teacher model was found to be complementary to a small Therapeutic Nursery School Classroom for treatment of a child's emotional problems (hyperactive and withdrawn) primarily diagnosed as "adjustment reaction to childhood" by the consulting psychiatrist. The roving teacher (spending time with specific children in the day care classroom) could, however, serve as a very cost-effective substitute for TNS for a large number of children. The roving teachers found that, in some cases, the child's day care environment was the major stimulant of the inappropriate behaviors because of room arrangements or methods of control.

9. Designing and implementing a program that will train paraprofessionals to perform specific tasks in areas of screening and treatment of the EPSDT program and to develop a manual for the training of paraprofessionals.

Two groups of paraprofessionals were trained. The project ended too quickly to allow the completion of the manual at the time of this writing. A curriculum was developed which included pre- and post-testing, and an independent observational checklist for evaluation. Supervisors rated the paraprofessionals very highly in their ability to perform required tasks. However, close supervision by professionals for unusual situations or creating new ideas is necessary. The trainees, at minimum wage, should not be expected to make the major decisions, but serve as an effective way to extend the abilities of trained professionals.

10. Recruiting, organizing, and training a corps of volunteers who will work in several areas of the program.

The dollar contribution of the volunteers was not figured precisely, but each month, when the volunteer hours were compared to the volunteer coordinators time, the volunteer coordinator spent more time recruiting than were returned in hours worked. The most helpful type of volunteers were students with special skills in child development or medical screening. The routine paperwork tasks (which most were capable of handling) were too tedious to generate continued program excitement.

Other summarizing statements not covered already are as follows:

Characteristics of children screened were that 50% were on Medicaid, 35% had an adult male in the home, 52% were male, and 6% had received a similar screen in the previous year.

Low rates of positive findings occurred in the lead test, the orthopedic part of the physical, urinalysis and the tuberculosis screening test. Since several orthopedic true problems were found, and at least two lead poisoning cases could have been severe without early intervention, it would be good to retain the lead and orthopedic screen, but in this project the urinalysis and TB test are highly questionable unless there is reason to believe that the child may be having difficulty in this area.

Laboratory test results on the original screens for iron deficiency anemia varied from 20% with one laboratory to 3% in another year with a different laboratory, suggesting that if lab tests are done, they should be run in alternate labs as a check.

Periodic screens showed a lower rate of findings (approximately one-half the original rate) on lead and vision screening. However, overall periodic screen

rates of positive findings were lower for after school day care children, the same as original screens for preschool day care, and higher for public school children.

Over half of the conditions referred were considered by the diagnosing physician to be moderate to severe.

The treatment of problems in preschool day care children referred for treatment increased from 65% in the first year of screening to 86% in the third year when intensive efforts were made to ensure rapid treatment by day care staff taking the child to the proper clinic soon after the screening.

Of problems referred for treatment, 10% were false positives, another 5% were confirmed but no treatment was considered necessary, and 20% had uncooperative parents.

Ear and hearing problems made up the majority of the false positives and uncooperative parents restricted problem resolution.

If the problems containing a resolution status code are removed from the problems to be treated, then 80% of all problems referred throughout the entire project (including dental) were treated.

Immunizations for preschool children were brought from 61% current to 75% "current for age" by the time of the periodic screens, but the low reported immunization status of the public school and after school children in the project remained low because of lack of records.

Case studies reported by staff are presented in three of the chapters. In the case of medical problems, one child who had been "acting out" could not see or hear on medical screening. Once the foreign body was removed from the ear and glasses made available, the behavior problem ceased.

Another child had been feeling his food at meal time. Medical screening discovered refractive error and glasses were received.

Another child with deep cavities was treated in time to avoid extensive orthodontic work.

Child health and developmental records were complete for the basic required summary results, but this required approximately one clerk per five staff members.

The lack of a control group outside the Day Care Association for developmental treatment limits what can be said about the true impact of developmental treatment rendered.

Those children with the greatest reduction in developmental lag (chronological age minus developmental age) were ones with the largest lag and the younger children. This result may be an artifact of the measurement instrument or the time of testing. That is, those children scoring low may have had a particularly bad day and scored low, but upon future testing has a normal day--making the test results look like dramatic gains have been made. Also, those with the largest lag had the greatest chance for large changes. Due to these two possibilities, the only strong conclusion that can be reached is that, the younger the child, the more likely is improvement to show within a short period of time.

The developmental screening instrument used was developed around Piagetian theories of developmental concepts that all children must have mastered prior to being able to learn well in school and used item forms in which the concept could be measured with minimal cultural bias. Then these items were normed on the inner city population and used as the screening instrument. Since developmental ages were given, various criteria could be used to prioritize children most in need of special attention, such as younger children with lags of 12 months or more in a given area of testing and whose parents agree to participate fully (the actual criteria was lag of six months or more in two or more areas of testing, including language, cognitive, memory, and visual motor).

The instrument can be administered in 20-30 minutes per child and is constructed in such a way that it could be adapted to many different environments with some minimal norming efforts. The cross-training required for developmental activities in special education, early child development, psychology and social work points to a need for a new type of cross-trained professional. An emotional checklist was developed along Freudian lines by the consulting psychiatrist and the on-site evaluator. This checklist showed that 5-10% of the children had problems with external control, their role as a child and learner, frustration threshold, sharing, and aggressiveness.

A range of treatment from the roving teacher (going to the same day care centers every other day and working with day care staff as well as the specific children in the room that were having difficulty emphasizing verbalization, and helping the children to control their frustrations) up through a Therapeutic Nursery School (TNS--a special classroom one-half day every day) was utilized. The roving teacher was effective for many children and was used effectively to limit the expansion of the more expensive (two or three times more dollars) TNS. The pre- and post-testing of the emotional checklist for children in treatment versus those in regular day care without special intervention showed that improvement occurred in 30-50% of the children regardless of the intervention.

Paraprofessionals were hired at minimum wage and trained for six months. Most showed knowledge gains and were able to function effectively when teamed with a professional person in a particular area of the project (medical, social work, emotional treatment). Based on the above summarizations of the project activity and findings, the following recommendations are made:

Recommendations

1. Day Care Associations can be a cost effective way of achieving over 80% participation in EPSDT for Medicaid eligible children in day care. However,

the problem of what to do about non-Medicaid children also in day care must be dealt with. Centers with high percentage of Medicaid (60-70%) should be contracted on a flat fee to cover the outreach, screening, and follow-up of Medicaid persons, making the fee high enough to screen all children, or a sliding scale may be used. A large staff is still required even when the children are available in one site because the parents must be contacted, transportation organized and contact made with the medical community.

2. Developmental screening should be continued in EPSDT (especially in preschool children) on a basis in which the instrument used has a capability of selecting those children with the greatest lags in developmental areas of cognition, memory, visual motor and intellectual functioning so that teachers and parents can best understand how to assist their child in creating appropriate learning environments. Continued study is needed as to how and which children can benefit from developmental intervention. Children who were in day care but had no special treatment seemed to have improved at the same rate as those with one-to-one intervention. Since there was no control group outside the day group, it is not known whether the stimulation provided by the day care tended to reduce the possibility of showing the value of the treatment. Also since the parent was aware of the child's problems, they may have made subtle changes that would help the child. The findings of this project indicate that more large scale studies are needed to determine the efficacy of treatment for such problems. Also, it should be pointed out that speech articulation and cleft palate were not the type of problems being addressed in developmental. These were considered as medical problems and referred accordingly.

3. Many emotional problems apparent in 5-10% of a day care population can be treated as well by a roving teacher (an experienced teacher under the super-

vision of a psychiatrist and psychologist) who spends time in the individual classrooms as by a special classroom for children who have emotional difficulties. However, a special classroom is still necessary for extremely hyperactive or withdrawn children.

4. The effectiveness of emotional treatment needs to be carefully studied in a project specifically designed to carry out an experimental and control (or quasi-control) group. The cases reviewed showed improvement in many children, but the overall group in emotional treatment improved at the same rate as those with minimal intervention.

5. Paraprofessional (high school graduates at minimum wage) should be trained by EPSDT projects and utilized for assisting in screening, case management, and, if in day care, developmental or emotional treatment.

6. Each screening center should be required to submit to the local and state EPSDT program manager an analysis of the yield on various screening tests. Whereas the vision and hearing (impedance bridge) testing and the physical and dental examinations produced high yields, the urinalysis and TB tests were of questionable value. The blood testing was borderline, but considered valuable. The analysis should also include a study of the laboratory results of blood from the same children sent to different laboratories.

7. The dental component of EPSDT requires a great deal of attention and flexibility of organization and funding. Moderate to severe dental caries is the single most frequent problem found in children of this age. Innovation is necessary to achieve low cost screening, prevention, and treatment.

8. Schools with a high density of Medicaid eligibles and without a strong health program should be a priority target for the EPSDT program. Conducting screening in the schools (for school age children) is much more cost effective

than special clinics due to the drastically reduced cost of outreach when all children are screened at one location without need for home visiting.

9. Reduced cost of outreach, reduced no-show rate for appointments, and relative ease of contact for follow-up purposes.

10. Developmental screening in the schools should be seriously questioned because in this project the teachers were already giving standardized achievement tests and knew the children who were in trouble. Diagnostics and treatment by an outside agency were found to be most needed.

11. Special focus is needed for EPSDT's responsibility in immunizing children. Immunization records are non-existent in schools, clinics, etc., and if the parent cannot produce a record, special guidance to EPSDT screening teams is needed, directing them to immunize when in doubt. From a broader perspective, the nation must do something to standardize, computerize, or otherwise provide documentation of immunization status.

12. Periodic screens in the day care population are needed for at least two years in a row. After that, the value of periodics is somewhat reduced, provided that a high rate of treatment occurred in the first two years. The original-periodic comparison is very difficult, however, because the screening methods and staff vary somewhat from year to year and this may cause a greater reduction than the fact that the child has been previously screened.

13. Innovative social and medical service projects should be funded for a minimum of five years. The organization and implementation of an EPSDT project requires a great deal of effort on the part of many people. When the evaluation component is included, even more patience and attention to detail is required. Dedicated and flexible staff are required. The four-year time frame of this project allowed the completion of many analyses that would not have been possible

in a three-year project. An additional year designed for completing tasks begun at the end of the fourth year would have been useful and certain hypotheses that only became known after the project had stabilized could have been tested in a relatively short time. EPSDT experiment stations that can be assured of continued funding so that they could be constantly addressing new issues would be very useful to programmatic enhancement of the Child Health Delivery in the United States.

APPENDIX A

Map of the Model Cities Area of Washington, D.C.
Showing the Location of EPSDT
Center Activities Throughout the Area
Showing Locations of:

Day Care
Schools the Project worked with
EPSDT offices

Note the White House to the Left and Union Train Station in the Center

model city area
MODEL CITY WARDS
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APPENDIX B

The Record System and Data Flow
National Child Day Care Association

APPENDIX B

THE RECORD SYSTEM AND DATA FLOW - NATIONAL CHILD DAY CARE ASSOCIATION

The evaluation of the levels and adequacy of project activity required a data collection and analysis system which captured the major elements of data for both project management and evaluation analysis. This appendix starts with a discussion of the basic requirements when the system was first developed; describes the basic forms used to capture information from the medical screening; reviews the computer file developed for carrying out the analysis of medical data from the system; and ends with a discussion of the lessons learned. The data forms for the developmental and emotional component are then presented.

At a minimum, there were five things the system was to do:

1. The medical data had to be collected in such a way that it could be put into statistical tables comparable to the other EPSDT demonstration projects in San Antonio, Contra Costa County, California, and Washington, D.C.

2. The forms had to be sufficient to meet the informational and medical/legal needs of the project staff with a minimum of paper work, but at the same time collecting useable data, and the forms had to be compatible with existing data systems in the county.

3. The system had to provide capability for tracking problems from referral to completion of treatment.

4. The system had to permit comparison of screening results on original and periodic screens for the same children.

5. The ability to distinguish the day care center was desired. In this way, results could be reviewed by center or groupings of centers.

The Data Forms

A set of multiple-part forms was developed which included an intake sheet with child and family history, screening sheet for each screen, and the problem sheet. The problem sheet was also a referral sheet used by the project, but not for the data system as was the dental record. These forms are included as Attachment B.1. Each of these will be discussed briefly, pointing out major information sought on the form and unique aspects. Once these forms are discussed, the data processing file structure and methodology will be presented.

Family History

The purpose of the family history was to describe the family structure, their previous use of health services, and capture information about histories of health problems and the length of time in the area as a mobility measure.

The first page of the intake sheet (one for each child) was assembled after a review of all the information required by NCDCA funding sources for all types of programs. The major variables collected for computerization are shown in boxes--with the majority of the information on the second page being stored in the computer.

The Screening Summary Sheet

Birthdate and date of the screen (physical examination portion) so the child's age could be accurately computed. Date of the screen was recorded in order to conduct analyses according to time period. Also, there is no indication of the periodicity of the screen, so the date determined the order in which screens were placed in the statistical file.

Child's Number--this number served as the project I.D. and contained the center code as the first two digits (alphabetical code) and the last three numbers

identified the specific child in the center. Since the focus was on children and not on families, the identification number problem was greatly simplified.

Medi-Cal Number was recorded for billing purposes, for providing children's names to Medi-Cal for studies of patient profile and a determination of Medi-Cal status.

The Required column was checked at the beginning of the screen and after the initial history in order to indicate which screening procedures were needed according to the periodicity schedule and the child's present experience in the health care system. If the procedure was complete, the staff member entered their code within the "performed" column. If the procedure was not performed, one of the "not performed" boxes was checked to indicate the reason--participant not cooperative, equipment or staff not available or other.

The "✓ if problem suspected" column was to be checked if a problem referral was to be made. As happens many times in the screening sheet of any project, the staff would write the test measures in the Test Results column and write "referred to pediatrician" in the comments column, but then not check the problem suspected column. As HSRI coders prepared the sheets for computerizing, they tried to catch this type of omission, but they also may have missed the comment. The rates of positive finding reported are, therefore, slightly understated.

The "✓ if this is a screening step completion" box was designed for the situation where a child did not receive a screening procedure on the regular day of screening, but received the step at a later time. This box led to some confusion because a step completed would be mailed with the date of screen being the date of the completion, not the original screen, and the computer edit would get confused--or if the name were slightly different, the computer edit rejected the form. The data processing section at HSRI finally looked at each screen step

completion and submitted it by hand. In subsequent HSRI EPSDT data systems, this was resolved by creating an additional copy of the form for indicating a completion (see Dallas EPSDT project reports available from HSRI).

The Immunization Status section was to be used to summarize the child's status prior to screening and to show the extent of immunizations given at the time of screening. The original concept was that if the child was current before and after the screen, both boxes would be checked. However, at times the staff thought that if the child was current before, then he should be current after and there was no need to check the box. This illustrates the importance of a well written forms procedures manual (the one supplied to the project was not thorough) and constant monitoring of the procedures used.

The Healthiness Rating was used to summarize the child's overall health considering the results of all the procedures with one being very unhealthy to nine being "the picture of health". Most ratings were in the six to nine area. This can also be used as a method of quality of care review by reviewing the rate of follow-up and treatment for children with low ratings. This was assessed by the chief nurse after consultation with the screening physician. As with all forms, this sheet was on multi-copy NCR paper. One copy stayed in the record and the other was sent to HSRI.

The Problem Sheet

The screening sheet and the problem sheet are actually the crucial forms to a viable EPSDT management system--the screening sheet to tell what procedures are being rendered to how many children, and the problem sheet to describe what was found that needed referral.

The problem sheet has three major parts as shown in Attachment B.1. The top part describes the reason for the referral and initiates in the data system that

a problem has been referred. Important information on this sheet included the reason for the referral (i.e., the screening positive finding), the newness of the problem, and the date the problem was found. The reason for referral was coded at HSRI into a 40-category grouping of problems shown in Attachment B.2 for summary purposes, but the verbal description was stored as well.

The second part is completed at the time of the diagnostic visit. The doctor completes the information requested and then makes notes at the side of the sheet concerning the treatment plan. The key information that was retrieved from this form was the seriousness rating and the final diagnosis.

The third part contains the case monitoring information which is completed by EPSDT project staff through either the receipt of the treatment results from the physician, calling the physician's office, or calling the parent. The status was the main item of interest on this part.

A Resolution Status code was developed in order to specify more clearly the problem status six months after referral. It was found that a "resolved/ not resolved" code was insufficient to describe what happened in the case. The problem number is at the far right hand side and is pre-stamped on each copy of the form so that tracking information can be linked into the correct problem.

When the top part of the Problem Sheet had been sent to the HSRI computer and six months had passed with no returned sheet, a listing was mailed requesting an up-date on the follow-up status. The project staff then located the Problem Sheet in question, determined the status, and returned the sheet.

The dental record was used for the project's own records, but the results, unfortunately, did not get into the computer file. When all of the EPSDT projects began, no one had a notion of the extent of dental referrals that would ensue. Since dental problems are the single most frequent referral, additional data from this dental record should have been entered in the computer such as the number of caries, services rendered, cost of services, extent of malocclusion, gingivitis, etc.

Computer File

The system developed for analysis of the data was more complex than would otherwise be required for routine EPSDT evaluation. The complexity came about for several reasons. The data file had to be sufficiently compatible with that of three other demonstration projects to permit access by use of a generalized statistical package (e.g., the Statistical Package for the Social Sciences--SPSS) and to allow simultaneous examination of several variables (e.g., comparison of findings on the same children for original versus periodic screens). At the same time, the system had to meet the unique requirements of the project.

There are two major and related data processing activities involved in the medical data system:

1. the statistical analysis file and
2. the data base file.

In the following discussion, the statistical file and analysis aspects will be discussed first and then the way data is entered and stored before building the statistical file will be presented.

The problem in building a generalized statistical file is that there are multiple levels of analysis. In some instances, the evaluator is interested in

screen or child oriented results such as the number, age, sex, ethnicity of children screened (either original screens or periodic screens) and the rate of finding on each screening step (original versus periodic perhaps). In other instances, the focus is on the problems referred in terms of the rate of false positives, the rate of shows for treatment, the number of specific conditions found (perhaps according to original versus periodic screen, age, ethnicity, etc.). Because of this, the statistical file must be structured to consider each problem, but have the capability of looking also at screens. Therefore, a "record" was created for each problem, but also contained all the screening data for the screen from which that problem was referred, and the related child history and family information.

To illustrate the way HSRI data processing solved this, let us consider three children as shown in Figure 1. Suppose that one child has had two screens, with two problems on each screen, and two other children have each had one screen with no referrals. Therefore, if problems were to be analyzed, (e.g., rate of treatment by condition), each "record" (representing a problem) in the data file would be used in the analysis. If only screens were to be analyzed, the first record for each screen would be selected by taking the "first in series" flag (set to one if it was the first record for that screen) since the structure was set up so that the first record for any set of problems would contain the screen results. If only original screens were desired, only records that were "first in series, first occurrence" (i.e., first time a record for that child appeared), "screen count greater" than zero, and first screen (in the "screen sequence" block) would be selected from the computer tape. Other variables than those shown in the example were included on the actual tape to capture the information from each

Figure B.1

General Record Layout for the Statistical File - Example

(Each line represents one record on the tape)

Child No.	Screen No.	Problem No.	Problem Description	Problem Code	Screen Information	Screen Count	Problem Count this Screen	First in Series	First Occur.	Screen Seq.	Other
Child 1	Screen 1	Problem 1	Dental	23	Positive findings by procedures, dates	2	2	1	1	1	—
Child 1	Screen 1	Problem 2	Vision	16	"	2	2	0	0	1	—
Child 1	Screen 2	Problem 1	Anemia	8	"	2	2	1	0	2	—
Child 1	Screen 2	Problem 2	Heart Murmur	13	"	2	2	0	0	2	—
Child 2	Screen 1				"	1	0	1	1	1	—
Child 3	Screen 1				"	2	0	1	1	1	—

form (the SPSS variable list is given in Attachment B.3). Access of this statistical tape and the SPSS analysis was done via a cathrode ray tube terminal to obtain any required cross-tabulations. Each time a new set of data arrived at HSRI, a data processing "cycle" was completed in order to update the data that had been received previously and placed on a master file which was stored on tape.

The second part of the data processing component was building on the data file from the data submitted by the project on the medical forms. This was done throughout the project to prevent the slippage of data accuracy and to provide more timely feedback.

Processing of the data prior to building the statistical file described was a three stage batch mode process* as follows:

Stage 1: Entry and Editing. Data were coded on special code sheets, keypunched and computer edited for obvious out-of-field codes (such as age over 21).

Stage 2: New File Creation. Each time a new batch of data was edited and ready for input, the previous master file was sorted and the sufficient disk space was allocated to allow insertion of the newly received screening or problem sheets. During the process of determining disk space needs, a computer check was made to match name and identification number to determine whether or not the new screening sheet represented a new child or a periodic screen of an existing child. It often happened that the new screening sheet would have the same identification number as an existing child record on the file, but the name would be different. This was always a problem in all

---

*In current HSRI applications, on line data entry is utilized.

projects. Finally, a phonetic check was built in wherein if the last name sounded the same and the first two letters of the first name sounded the same, the name and number were assumed to match. If no match could be found, a new record was created. If it was close, but not certain, the whole record was rejected for manual editing. Accordingly, certain rejection criteria were developed. Manual review of a child's total file had to occur if any of the following events occurred:

1. If, for any record, the name on the data entered in the computer data did not match on file. The match did not need to be exact and was determined by a combination of tests including exact match, phonetic match, and first four character match.

2. If there was a duplication of dates for two different screening sheets.

3. If problem referral data were entered for which there was either no record at all of the child, or no record of a screen under that child's number.

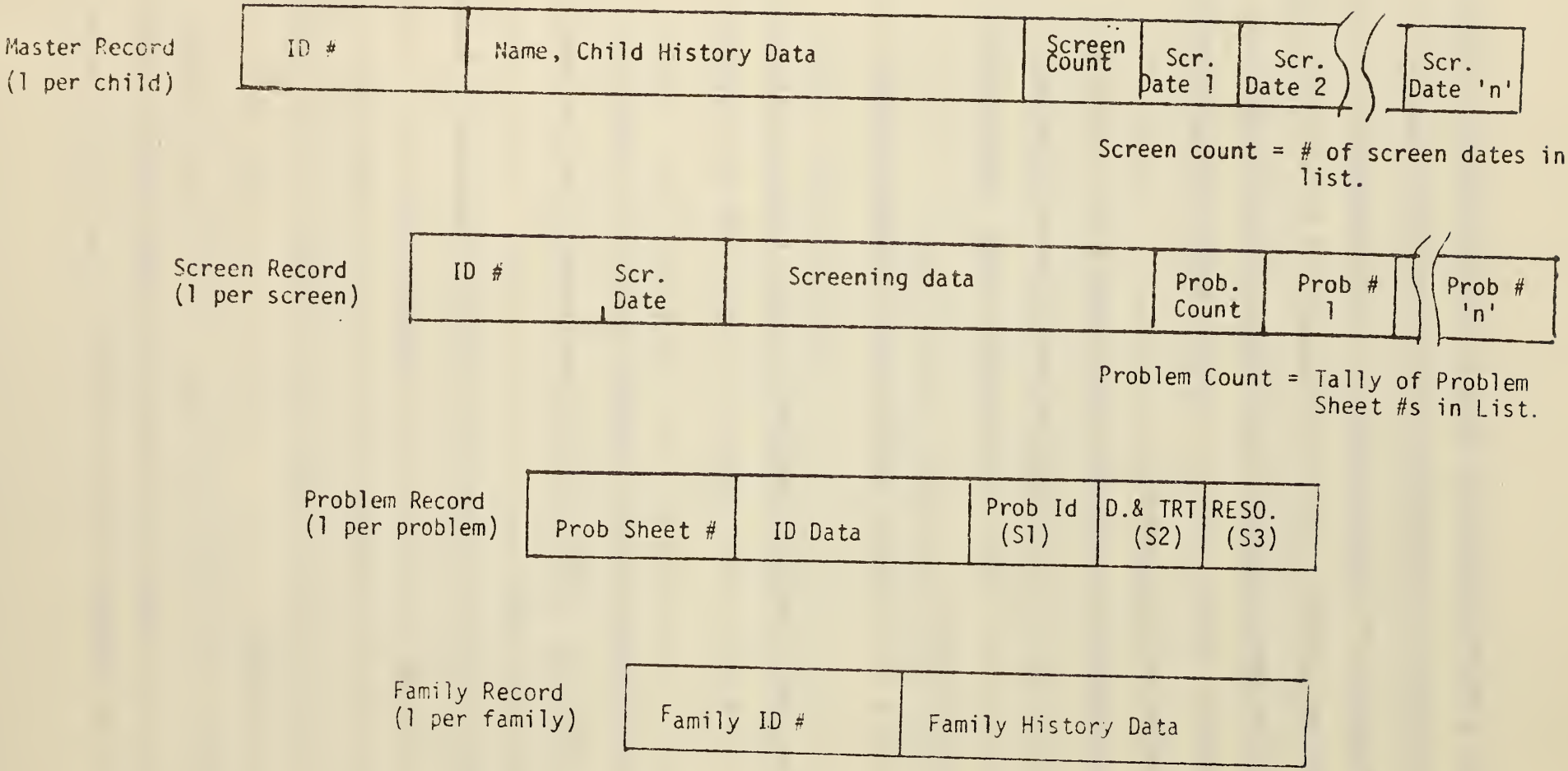
4. If the same problem sheets were entered twice for the same child and the diagnosis codes were identical, the system assumed it was the same problem and ignored the new data.

5. If treatment or resolution data were entered but there was no problem (identified by a unique number code) yet in the computer file.

The information from those documents that did not get rejected were then allowed to be inserted into the appropriate places in the master file structured like that shown in Figure B.2.

Stage 3: Creation of the Statistical Tape. Periodically, as the data analysis was required, the information from the files (basic data file structure shown in Figure B.2) was combined into the statistical tape described earlier.

Figure B.2



FILE KEYS:

File	Key
1. Master	Child's #
2. Screen	Child's # + Screen Date
3. Problem	Problem Sheet #
4. Family	Family portion of Child's #

The extensive editing and data maintenance processes described above grew out of experience with earlier EPSDT studies based on other state and local data systems containing many inaccuracies arising from inadequate editing. However, wider experience has made us think that the system used here was too cumbersome for routine use in projects of this size, as will be pointed out in a later section.

Lessons Learned about the Medical Record System

As a result of the experience with the NCDCA project and other EPSDT demonstrations, HSRI moved in several different directions in the processing of data when a requirement for detailed research data exists. A system of on-line data entry and simultaneous editing is necessary so the data entry personnel can quickly review the child's entire file to determine if new data fits into the file. Many unique possibilities occur in the generation and separation of screening findings because it is difficult to produce computer algorithim that anticipates all critical events and it is clerically too time consuming to go back to the child's complete paper file to determine the previous activity and current status in the system. Along with this, forms should be carefully pretested at least six months before computerizing. Attention must be paid to developing internal flow of records procedures whereby the data clerks monitor the information status of all records to ensure that records are complete and accurate before the child leaves the screening clinic.

When the requirement is not so detailed (one wants to monitor just the basic rates of findings and follow-up), a more simplified system is needed for paper flow to and from the computer.

Developmental Screening Forms

The data system for developmental was never designed as a full-blown operating data system with integrated editing and follow-up because the developmental component evolved along with the project and there was no need for a common data base reporting of similar projects.

The developmental screening form evolved after the first year of screening and is shown in Attachment B.4. It contains information on the chronological age, center, teacher, date of screen, and developmental age for each of the four basic areas, along with the results of each item. From this form, a summary card was developed for children given developmental screens for both the pre- and post-test for children in each experimental treatment group.

The SPSS variable list for the summary cards as well as the variable list for the basic data set on each screen is shown in Attachment B.5.

The Individual Progress and Growth Record was created from existing day care materials that teachers completed routinely in January and May and was designed to capture the personal-social and motor development portions of a developmental screen. However, the multiple copies and multiple pages created confusion and, although many such forms were completed, the reliability and consistency was questioned by the on-site evaluator, so the form was eliminated from analysis. It is, however, included for persons wishing to utilize the items in a modified form for their own operation. It is shown as Attachment B.6.

The Emotional Checklist is included as Attachment B.7. This was discussed in the body of the report in detail. The observer was to check the items on the list only when the behavior deviated from what was normally expected from other children of the same age. The associated SPSS variable list is also included as Attachment B.8.

The Therapeutic Evaluation form is shown in Appendix B.9. This was created by the project staff in order to subjectively quantify and describe the behavior problems of children referred to the Therapeutic Nursery School (TNS) and to measure the child's length of stay and progress during the stay. This form was available for less than 100 different children, so it was not computerized. The second page verbally described the children and made case study analysis very easy.

Appendix B. 10 contains the final form utilized--the Social Work Evaluation form for therapeutic classroom children. This was designed to formally summarize the work done by the social worker with the parents of children in the TNS.

The set of forms presented in this appendix indicates the large amount of documentation available for services rendered.

Conclusion

This appendix has been included to reflect the methods by which data from the project were recorded, in a summary fashion, in both the child's record and the statistical computer files at HSRI.

The medical data system was complex in the extensive processes of editing and trying to match names and numbers on different screens and problems for the same child. However, the other forms were set up for SPSS directly after a hard edit of the appropriate forms.

An ongoing project should seek a more simplified data system, but the crucial data is the type and date of screen, periodicity, procedures given, staff doing a procedure, the problems referred, and resolution status for medical and dental problems and date of screen, screener, original or periodic, and developmental versus chronological age for developmental screening and the result of emotional screening, and screener for emotional screening.

ATTACHMENT B.1

Medical - Dental Screening Sheets

Intake Form

Center name _____ Date ☐☐ ☐☐ ☐☐ (Mon Day Yr)

Child's name ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ (Last) ☐☐☐☐☐☐☐☐☐☐ (First) ☐☐☐☐☐☐☐☐ (Middle)

Child's number ☐☐☐☐☐ (center child) ✓ if a sibling of enrollee ☐ Male ☐ Female ☐ Date of birth ☐☐ ☐☐ ☐☐ (Mon Day Yr)

Child's address _____ Referred by: Welfare ☐ Neighbor ☐ Walk-in ☐ Flyer ☐ Agency ☐ Other ☐ Specify _____

Child's Medicaid or other insurance number ☐☐☐☐☐☐☐☐☐☐☐☐

Expiration Date ☐☐☐☐☐☐

Phone number _____ Length of time on Medicaid _____

Name of applicant _____ Relation to child _____

Mother's name _____ Address _____

Phone No. _____ SSN _____ Medicaid No. _____

Birthdate _____ Occupation _____ How long on present job? _____

Work hours _____ Business address _____ Business phone no. _____

Salary _____ per _____ Other sources of income _____ per _____ Education level _____

Father's name _____ Address _____

Phone No. _____ SSN _____ Medicaid No. _____

Birthdate _____ Occupation _____ How long on present job? _____

Work hours _____ Business address _____ Business phone no. _____

Salary _____ per _____ Other sources of income _____ per _____ Education level _____

Source of Income (indicate amounts)

Salary _____ per _____ AFDC _____ per _____ Public assistance _____ per _____ Social Security _____ per _____

Retirement _____ per _____ Other (specify source and amount) _____ per _____

Caseworker's name _____

(If father lives away from home) Does father offer support for child Yes ☐ No ☐ If yes, how much? _____

Name of other guardian or caretaker _____

Address _____ Phone no. _____

BROTHERS AND SISTERS

Name	Sex	Age	Medicaid No.	School	Grade	Living w/child
_____	M F	_____	_____	_____	____	Y N
_____	M F	_____	_____	_____	____	Y N
_____	M F	_____	_____	_____	____	Y N
_____	M F	_____	_____	_____	____	Y N
_____	M F	_____	_____	_____	____	Y N
_____	M F	_____	_____	_____	____	Y N

LIVING ARRANGEMENTS

Apartment ☐
House ☐
Buying ☐
Renting ☐

Monthly Payments _____

No. of Rooms _____
(Exclude bathroom & kitchen)

How many people live in the house? _____
How many people under 21 live in the house? _____
How long have you lived at your current address? _____
How long have you lived in Washington? _____

How many times have you moved in the past 5 years? _____

Who lives in the home? (Check all that apply)

Adult Male ☐
Adult Female ☐
Grandparent ☐
Other Relatives ☐
Other Non-Relatives ☐

Who is child's head of household?

Mother ☐
Father ☐
Grandparent ☐
Other Relative ☐
Other ☐
(Specify) _____

Age _____

Who is child's health decision maker?

Mother ☐
Father ☐
Grandparent ☐
Other Relative ☐
Other ☐
(Specify) _____

Source of medical payments

Medicaid ☐
Private insurance ☐
Group insurance ☐
Cash ☐
Hospital district ☐
Federal project ☐
Other ☐
(record insurance number on first page)

Caretaker's current health (In his opinion)

Healthy ☐
Some problems ☐
Several chronic problems ☐

Caretaker's health history

Healthy, seldom ill ☐
Some health problems ☐
Several chronic problems ☐

Medical care past 12 months:

Number of	checkups	sick visits
Well child conference	☐☐	☐☐
Private physician	☐☐	☐☐
Outpatient clinic	☐☐	☐☐
Emergency room	☐☐	☐☐
Dentist	☐☐	☐☐
Optometrist/optical	☐☐	☐☐
Other	☐☐	☐☐
Screening program	☐☐	☐☐
Inpatient admissions	☐☐	☐☐

Blank = None 99 = Unknown

Child Health Information

Previous Physicals (past 12 months)
(check all appropriate)

Hearing test ☐
Vision test ☐
Lab work ☐
Unclothed exam ☐
School physical ☐
Lead screen ☐
Sickle cell test ☐

Child's Health Status
(caretaker's opinion)

Healthy ☐
Minor problems ☐
Frequently sick ☐
Handicapped ☐

Family doctor or clinic _____

Phone No. _____

Child's allergies _____

Any significant health problems or hospitalizations

_____
_____
_____
_____
_____

NATIONAL CHILD DAY CARE ASSOCIATION

EPSDT SCREENING SUMMARY

Child's Name _____ (Last) _____ (First)

Child's Number _____ (Center) _____ (Child) Child's Medicaid No. _____

Date _____ (Mon Day Yr) Child's date of Birth _____ (Mon Day Yr) No. of Entries in Health Record since last Physical Exam _____

√ if this is a screening step completion ☐

√ if required	√ if problem suspected		Screening Step	Performed, staff code	Not Performed: Patient Uncoop.	Not Performed: Staff/equip. unavail.	Not Performed: Other e.g. prev. done	Test Results	Comments
		01	Measurements Vital Signs						
		02	EENT						
		03	Heart						
		04	Skin						
		05	Respiratory						
		06	Orthopedic						
		07	Other Physical						
		08	Blood Work						
		09	Serology						
		10	Lead Test						
		11	Sickle Cell Test						
		12	Urinalysis						
		13	TB Test						
		14	Hearing Test						
		15	Vision Test						
		16	Dental Examination						
		17							

Height _____ Weight _____ Blood Pressure _____

Temperature _____ Pulse _____ Respiration _____

STAFF CODES

1-Nurse 3-M.D. 5-Dentist

2-Nurse Aide 4-Staff 6-Volunteer

HEALTHINESS RATING

(Circle most appropriate rating)

Current	1	2	3	4	5	6	7	8	9
Predictions: In 6 months, all problems treated	1	2	3	4	5	6	7	8	9
Predictions: In 6 months, without any treatment	1	2	3	4	5	6	7	8	9

Immunization Status

	Before initial screen. exam. √ if current	After this exam. √ if current
DPT		
OPV		
Measles		
Mumps		
Rubella		

How many contacts will be required to bring child to "current"? _____

NATIONAL CHILD DAY CARE ASSOCIATION

PROBLEM SHEET

Child's Name _____ (Last) _____ (First)

Child's Number _____ (Center) _____ (Child) ☐ Check if non-screening finding

Date _____ (Mo. Day Yr.)

Problem Category _____

Medicaid Number _____

Problem History (✓ one)

Completely new to mother and clinic ☐

Previously known but not under care ☐

Previously under care ☐

Problem Description _____

Referral/Treatment Summary

Date _____ (Mo. Day Yr.)

Findings (if referred) _____

If a suspected problem is declared "No Problem" at the time of diagnosis "No Problem" should be written as the diagnosis and number 8 under problem status should be checked.

Is the diagnosed condition:

Acute	☐	Symptomatic	☐
Chronic	☐	Asymptomatic	☐

Problem Seriousness (circle one)

1 2 3 4 5

Mild Moderate Severe

	Y	N
Is problem treated?	☐	☐
Is problem resolved?	☐	☐
Is further referral/treat. req.?	☐	☐
(Specify) _____		
Is a follow-up visit required?	☐	☐
When _____		

Discussion of Other Findings

Referral/Treatment Provider Type

☐ NCDCA ☐ DHR

☐ Dentist ☐ Private Physician ☐ Hospital

☐ Specialist ☐ Other ☐ (specify type _____)

Provider's Name _____

Problem Resolution Statement

Date _____ (Mo. Day Yr.)

PROBLEM STATUS

THE STATUS IS FILLED OUT AT THE TIME THE PROBLEM IS TERMINATED OR AT THE SIX MONTH AFTER SCREEN CUT OFF DATE, WHICHEVER COMES FIRST.

Note: TREATMENT INCLUDES COUNSELING OR HEALTH EDUCATION

DESCRIPTION

1 ☐ Condition minor, treatment completed on first visit or presumed to be cured or inactive within ten days of the first visit.
2 ☐ Treatment plan completed on subsequent visit(s).
3 ☐ Condition still under treatment.
4 ☐ Condition noted; treatment not advisable or warranted.
5 ☐ Condition noted but treatment not available or not authorized.
6 ☐ Termination due to family moving, no longer eligible, or no family finances available.
7 ☐ Parent not cooperative and after 3 contacts child does not show for appointment.
8 ☐ Suspected problem was declared no problem.
9 ☐ Forms coding error, clerical error.

Comments: _____

NOTE: RETURN WHITE (ORIGINAL) AND YELLOW COPIES TO C.D.C.A. 1020 3RD STREET, N.W. WASHINGTON, D.C. 20001 DENTIST RETAINS PINK COPY

NATIONAL CAPITAL AREA CHILD DAY CARE ASSOCIATION, INC.

1020 3RD STREET, N.W.
WASHINGTON, D.C. 20001

CHILD DEVELOPMENT CENTER DENTAL RECORD.

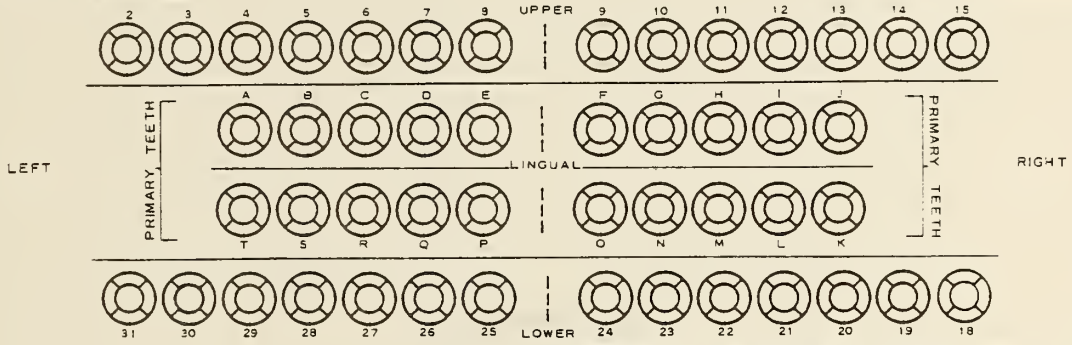
177

IMPORTANT: PLEASE CHECK IF THIS IS A NEW_____OR CONTINUING_____RECORD.

PATIENT'S NAME_____ (LAST) _____ (FIRST) _____ (MIDDLE) _____ (SEX)

ADDRESS:_____ DATE OF BIRTH_____ (MO. YR.) PLACE OF BIRTH_____

NAME AND ADDRESS OF CHILD DEVELOPMENT CENTER_____



SOLID AREA INDICATES FILLING PRESENT

ZEBRA STRIPE INDICATES DECAY PRESENT

VERTICAL LINE INDICATES TO BE EXTRACTED

"X" INDICATES MISSING TOOTH

DIAGNOSTIC CODE

TREATMENT CODE

SURFACES:	MATERIALS:
M - MESIAL	A - AMALGAM
D - DISTAL	S - SILICATE
O - OCCLUSAL	P - ACRYLIC
L - LINGUAL	C - STEEL CROWN
I - INCISAL	O - OTHER, SPECIFY
B - BUCCAL OR LABIAL	

SERVICES PROVIDED: (PLEASE RECORD EACH TREATMENT ON SEPARATE LINE)

MONTH	DAY	YEAR	TOOTH#	SURFACE	MATERIAL	DESCRIPTION OF WORK	CHARGE	FOR U.P.O.
						BITEWING X-RAYS, PROPHYLAXIS, EXAM.		

IMPORTANT: _____CHECK IF TREATMENT CONTINUED ON ADDITIONAL RECORD.
_____CHECK IF ALL WORK FOR THIS CHILD HAS BEEN COMPLETED.
_____CHECK IF TREATMENT DISCONTINUED

TOTAL $_____

REMARKS: (DESCRIBE ABNORMALITIES, INCLUDING SEVERE MALOCCLUSION, GINGIVITIS, ETC.)_____

_____ DATE VOUCHER WAS SUBMITTED

_____ SIGNATURE

_____ DENTIST'S NAME

_____ DENTIST'S ADDRESS

C.D.C.A. COPY

ATTACHMENT B.2

Groupings of Problem Descriptions and
Diagnoses for use in Statistical Tables

Groupings of problem descriptions and diagnoses for use in statistical tables

NO.	GENERAL DESCRIPTION	ICDA CODES
01	Infective and Parasitic diseases, Tine Influenza, Thrush, Ringworms, Scabies Gastroenteritis (acute), Warts, Lice Athlete's Foot, Diahrrea	000-003, 010-027, 030-033, 035-046, 050-057, 060-063, 071-104, 110-117, 120-126, 128-136, 470-474, 079.1
02	Pinworms	127
03	Neoplasms - Nodes, Lumps, Growths, Mass, Tumor(Benign), Nevus, Hemangioma	140-163, 170-174, 180-223, 227, 230-239
04	Diseases of Thyroid and other Endocrine glands	240-246, 251-253
05	Diabetes	250
06	Nutritional and Metabolic conditions Feeding problem, G6PD, Underweight	260-269, 270-276, 278-279
07	Obesity	277
08	Anemias and other Diseases of the blood and blood-forming organs	280-289
09	Psychoses, Neuroses, Personality and other mental disorders, Hyperactivity Childhood Behavior Problem	290-305, 307-309
10	Speech disorder, Learning Disturbance	306
11	Mental Retardation	310-315
12	Diseases of the nervous system Migraine	320-324, 330-333, 340-344 346-358
13	Convulsive Disorder, Clonus	345, 780
14	Vision problems: Refractive errors and blindness, Astigmatism, Hyperopia Myopia, Eye strain, Presbyopia, Exam	370, 379
15	Eye problem, Diseases, Strabismus, Conjunctivitis, Esotropia, Exophoria	360-369, 371-378

16	Hearing Test, Otitis Media and other Ear problems	380-387
17	Hearing Loss	388, 389
18	Rheumatic Fever and rheumatic heart disease	390-398
19	Other heart and circulatory conditions, Heart murmur, High BP, Hypertension	400-404, 410-414, 420-438 440-448, 450-458
20	Upper Respiratory Tract diseases, Rhinitis, Tonsillitis, Chronic sinusitis	034, 460-466, 500-506 508
21	Lower Respiratory Tract diseases Bronchitis	480-486, 490-492, 510-519
22	Allergies, Hay Fever, Asthma Allergic - Contact Dermatitis	507, 493, 692
23	Dental Caries	521
24	Other dental and oral problems, Dental evaluation, Gingivitis, Maloclussion	520, 522-529
25	Upper G.I. Tract	530-537
26	Lower G.I. Tract and Intestinal problems,	560-564
27	Lower G.I. Tracts, Appendicitis Hepatitis	070, 540-543, 565-577
28	Hernias	550-553
29	Genitourinary conditions, Phimosis Tight foreskin, Hydrocele	580-584, 590-607
30	Menstrual and reproductive conditions; Abortion	610-616, 620-629, 640-645

31	Pregnancy, Delivery and Puerperium	630-639, 650-662, 670-678
32	Dermatological problems, Impetigo Diaper Rash, Ingrown toenail, Keloid Infantile Eczema, Acne, Erythema Atopic Dermatis, Cradle cap	680-686, 690-691, 693-698 700-709
33	Orthopedic problems: Scoliosis Osgood-schlatter	710-718, 720-738
34	Congenital anomalies: Ichthyosis Undescended Testicle, Hypospadias Flat feet, Toes-In	740-759
35	Certain causes of perinatal morbidity and mortality, Failure to thrive	760-779
36	Symptoms and ill-defined diseases, Epistaxis, Cough, Vomiting, Fever Headaches, Rales, Albuminuria Proteinuria, Ketouria	781-785, 787-796
37	Enuresis - Dysuria, Polyuria	786
38	Injuries Foreign Body - Ear Blood Level(Plumbism)	800-848, 850-854, 860-887 890-897, 900-907, 910-918 920-999
40	Other - Developmental Abn Growth, Abn ht and wt	
77	NO Problem	
55	Unimmunized	
88	No Information	
50	Denver	

ATTACHMENT B.3

SPSS Variable List and Value Lables
for the NCDCA Medical Statistical File Analysis

```
CHS001,CHILDS CENTER/
CHS002,CHILDS NUMBER/
CHS003,# RECORD CR DATE/
CHS004,FIRST OCCURANCE FLAG/
CHS005,MASTER RECORD INACTIVE FLAG/
CHS006,CHILD HISTORY FLAG/
CHS007,INTAKE DATE MONTH/
CHS008,INTAKE DATE DAY/
CHS009,INTAKE DATE YEAR/
CHS010,SIBLING OF ENROLLEE/
CHS011,SEX/
CHS012,DATE OF BIRTH MONTH/
CHS013,DATE OF BIRTH DAY/
CHS014,DATE OF BIRTH YEAR/
CHMCN01,MEDICAID NUMBER/
CHMCN02,MEDICAID NUMBER/
CHS016,REFERRED BY/
CHS017,TIME ON MEDICAID/
CHS018,MOTHERS AGE YRS/
CHS019,MOTHERS EDUCATION YRS/
CHS020,FATHERS AGE YRS/
CHS021,FATHERS EDUCATION YRS/
CHS022,PARENT IN HOME/
CHS023,ANNUAL INCOME THOUS HUND/
CHS024,NUMBER OF PEOPLE IN HOUSE/
CHS025,NUMBER UNDER 21 IN HOUSE/
CHS026,TIME AT CURRENT ADDRESS/
CHS027,TIME IN WASHINGTON/
CHS028,TIMES MOVED/
CHS029,ADULT MALE LIVES IN HOME/
CHS030,ADULT FEMALE LIVES IN HOME/
CHS031,GRANDPARENT LIVES IN HOME/
CHS032,OTHER RELATIVES LIVE IN HOME/
CHS033,OTHER NON-RELATIVES LIVE IN HOME/
CHS034,HEAD OF HOUSEHOLD/
CHS035,HEALTH DECISION MAKER/
CHS036,SOURCE OF MEDICAL PAYMENTS/
CHS037,CARETAKERS CURRENT HEALTH/
CHS038,CARETAKERS HEALTH HISTORY/
CHS039,WELL CHILD CONFERENCE CHECK UP/
CHS040,WELL CHILD SICK VISIT/
CHS041,PRIVATE PHYSICIAN CHECK UP/
CHS042,PRIVATE PHYSICIAN SICK VISIT/
CHS043,OUTPATIENT CLINIC CHECK UP/
CHS044,OUTPATIENT CLINIC SICK VISIT/
CHS045,EMERGENCY CLINIC CHECK UP/
CHS046,EMERGENCY CLINIC SICK VISIT/
CHS047,DENTIST CHECK UP/
CHS048,DENTIST SICK VISIT/
CHS049,OPTOMETRIST CHECK UP/
CHS050,OPTOMETRIST SICK VISIT/
CHS051,OTHER CHECK UP/
CHS052,OTHER SICK VISIT/
CHS053,SCREENING PROG CHECK UP/
CHS054,SCREENING PROG SICK VISIT/
CHS055,INPATIENT ADMS CHECK UP/
CHS056,INPATIENT ADMS SICK VISIT/
CHS057,PREV PHY PAST 12 MOS HEARING TEST/
CHS058,PREV PHY PAST 12 MOS VISION TEST/
CHS059,PREV PHY PAST 12 MOS LAB WORK/
CHS060,PREV PHY PAST 12 MOS UNCLOTHED EXAM/
CHS061,PREV PHY PAST 12 MOS SCHOOL PHYSICAL/
CHS062,PREV PHY PAST 12 MOS LEAD SCREEN/
CHS063,PREV PHY PAST 12 MOS SICKLE CELL TEST/
CHS064,CHILDS HEALTH STATUS/
SCR001,SCREEN COUNT/
SCR002,SCREEN SEQUENCE NO./
SCR003,SCREEN DATE MON/
SCR004,SCREEN DATE DAY/
SCR005,SCREEN DATE YR/
SCMCN01,MEDICAID NUMBER/
SCMCN02,MEDICAID NUMBER/
SCR007,DATE OF BIRTH MON/
SCR008,DATE OF BIRTH DAY/
SCR009,DATE OF BIRTH YR/
SCR010,NO OF ENTRIES/
SCR011,STEP COMPLETION/
SCR012,MEASURE AND VIT SIGNS REQD/
SCR013,MEASURE AND VIT SIGNS PROB SUSPEC/
SCR014,MEASURE AND VIT SIGNS STAFF CODE/
SCR015,MEASURE AND VIT SIGNS NOT PERFORMED/
SCR016,EENT REQD/
SCR017,EENT PROB SUSPEC/
SCR018,EENT STAFF CODE/
SCR019,EENT NOT PERFORMED/
SCR020,HEART REQD/
SCR021,HEART PROB SUSPEC/
SCR022,HEART STAFF CODE/
SCR023,HEART NOT PERFORMED/
SCR024,SKIN REQD/
SCR025,SKIN PROB SUSPEC/
SCR026,SKIN STAFF CODE/
SCR027,SKIN NOT PERFORMED/
SCR028,RESPIRATORY REQD/
SCR029,RESPIRATORY PROB SUSPEC/
SCR030,RESPIRATORY STAFF CODE/
SCR031,RESPIRATORY NOT PERFORMED/
SCR032,ORTHOPEDIC REQD/
SCR033,ORTHOPEDIC PROB SUSPEC/
SCR034,ORTHOPEDIC STAFF CODE/
SCR035,ORTHOPEDIC NOT PERFORMED/
SCR036,OTHER PHYSICAL REQD/
SCR037,OTHER PHYSICAL PROB SUSPEC/
SCR038,OTHER PHYSICAL STAFF CODE/
SCR039,OTHER PHYSICAL NOT PERFORMED/
SCR040,BLOOD WORK REQD/
SCR041,BLOOD WORK PROB SUSPEC/
SCR042,BLOOD WORK STAFF CODE/
SCR043,BLOOD WORK NOT PERFORMED/
SCR044,SEROLOGY REQD/
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SCR045,SEROLOGY PROB SUSPEC/
SCR046,SEROLOGY STAFF CODE/
SCR047,SEROLOGY NOT PERFORMED/
SCR048,LEAD TEST REQD/
SCR049,LEAD TEST PROB SUSPEC/
SCR050,LEAD TEST STAFF CODE/
SCR051,LEAD TEST NOT PERFORMED/
SCR052,SICKLE CELL REQD/
SCR053,SICKLE CELL PROB SUSPEC/
SCR054,SICKLE CELL STAFF CODE/
SCR055,SICKLE CELL NOT PERFORMED/
SCR056,UA REQD/
SCR057,UA PROB SUSPEC/
SCR058,UA STAFF CODE/
SCR059,UA NOT PERFORMED/
SCR060,TB TEST REQD/
SCR061,TB TEST PROB SUSPEC/
SCR062,TB TEST STAFF CODE/
SCR063,TB TEST NOT PERFORMED/
SCR064,HEARING REQD/
SCR065,HEARING PROB SUSPEC/
SCR066,HEARING STAFF CODE/
SCR067,HEARING NOT PERFORMED/
SCR068,VISION REQD/
SCR069,VISION PROB SUSPEC/
SCR070,VISION STAFF CODE/
SCR071,VISION NOT PERFORMED/
SCR072,DENTAL REQD/
SCR073,DENTAL PROB SUSPEC/
SCR074,DENTAL STAFF CODE/
SCR075,DENTAL NOT PERFORMED/
SCR076,OTHER REQD/
SCR077,OTHER PROB SUSPEC/
SCR078,OTHER STAFF CODE/
SCR079,OTHER NOT PERFORMED/
SCR080,HEALTHINESS RATING CURRENT/
SCR081,HR 6 MOS PROB TREATED/
SCR082,HR 6 MOS WITHOUT TREATMENT/
SCR083,DPT CURRENT BEFORE/
SCR084,OPV CURRENT BEFORE/
SCR085,MEASLES CURRENT BEFORE/
SCR086,MUMPS CURRENT BEFORE/
SCR087,RUBELLA CURRENT BEFORE/
SCR088,DPT CURRENT AFTER/
SCR089,OPV CURRENT AFTER/
SCR090,MEASLES CURRENT AFTER/
SCR091,MUMPS CURRENT AFTER/
SCR092,RUBELLA CURRENT AFTER/
SCR093,NO OF CONTACTS TILL CURRENT/
SCR094,FIRST IN SERIES FLAG/
SCR095,PROBLEM COUNT THIS SCREEN/
PRB001,*PROBLEM SEQUENCE NO/
PRB002,*PROBLEM FORM NO/
PRB003,PROBLEM POSTFIX/
PRB004,REF DATE MONTH/
PRB005,REF DATE DAY/
PRB006,REF DATE YR/
PRB007,PROBLEM CATEGORY/
PRB008,PROBLEM HISTORY/
PRB009,OLD FORM PROB REFERRED/
PRB010,OLD FORM PROB CHRONIC/
PRB011,OLD FORM PROB SYMPTOMATIC/
PRB012,OLD FORM PROB SERIOUSNESS/
PRB013,OLD FORM TIME WITHOUT TREATMENT/
PRB014,S1 DIAGNOSIS CODE/
PRB016,NEW FORM NON-SCREENING REFERRAL/
PRB017,S2 FLAG/
PRB018,TREATMENT DATE MONTH/
PRB019,TREATMENT DAY/
PRB020,TREATMENT YEAR/
PRB021,PROBLEM TREATED/
PRB022,PROBLEM RESOLVED/
PRB023,FURTHER REFERRAL-TREATMENT REQ/
PRB024,FOLLOW UP VISIT REQ/
PRB025,PROVIDER TYPE/
PRB026,S2 DIAGNOSIS CODE/
PRB028,NEW FORM ACUTE OR CHRONIC/
PRB029,NEW FORM SYMPTO OR ASYMPTO/
PRB030,NEW FORM SERIOUSNESS/
PRB031,S3 FLAG/
PRB032,S3 PROB RESOLUTION DATE MONTH/
PRB033,S3 PROB RESOLUTION DATE DAY/
PRB034,S3 PROB RESOLUTION DATE YEAR/
PRB035,OLD FORM PERSON FOLLOWING UP/
PRB036,OLD FORM SOURCE OF INFORMATION/
PRB037,OLD FORM METHOD OF FOLLOW UP/
PRB038,OLD FORM REQUIRED CARE/
PRB039,OLD FORM CHILD RESPONCE TO CARE/
PRB040,STATUS-NEW CODES START 9-9-75  /
PRB041,OLD FORM STATUS UNDETERMINED/
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CHS001 ('AH')ANTOINETTE HARMON('GB')GIBSON('GK')GRIMKE('HS')HAYES
('LL')LUDLOW-TAYLOR('LT')LINCOLN TEMPLE('LW')LINCOLN WESTMORELAND
('PL')PILGRIM('PW')PHYLLIS WHEATLEY('SM')SCOTT MONTGOMERY
('SP')SIMMONS PERRY('TH')TYLER HOUSE('WE')WHEATLEY ELEMENTARY
('WS')WILSON/
CHS004 (0)NOT FIRST(1)FIRST/
CHS006 (0)CH HIST DATA PRESENT(1)CH HIS DATA NOT PRES/
CHS010,CHS029 TO CHS033,CHS057 TO CHS063,SCR011(1)YES/
CHS011 (1)MALE(2)FEMALE/
CHS016 (1)WELFARE(2)WALK-IN(3)AGENCY(4)NEIGHBOR(5)FLYER
(6)OTHER/
CHS022 (1)MOTHER AND FATHER(2)MOTHER ONLY(3)FATHER ONLY(4)OTHER/
CHS034,CHS035 (1)MOTHER(2)FATHER(3)GRANDPARENT(4)OTHER RELATIVE
(5)OTHER/
CHS036 (1)MEDICAID(2)PVT INS(3)GRP INS(4)CASH(5)HOSP DIST
(6)FED PROJECT(7)OTHER/
CHS037 (1)HEALTHY(2)SOME PROBLEMS(3)SEVERAL CHRONIC PROB/
CHS038 (1)HEALTHY SELDOM ILL(2)SOME HEALTH PROB
(3)SEVERAL CHRONIC PROB/
CHS064 (1)HEALTHY(2)MINOR PROBLEMS(3)FREQUENTLY SICK
(4)HANDICAPPED/
SCR012,SCR016,SCR020,SCR024,SCR028,SCR032,SCR036,SCR040,SCR044,
SCR048,SCR052,SCR056,SCR060,SCR064,SCR068,SCR072,
SCR076(0)NOT REQUIRED(1)REQUIRED/
SCR013,SCR017,SCR021,SCR025,SCR029,SCR033,SCR037,SCR041,SCR045,
SCR049,SCR053,SCR057,SCR061,SCR065,SCR069,SCR073,
SCR077(0)NORMAL(1)ABNORMAL(2)REQ-NOT DONE(3)NOT REQ-NOT DONE/
SCR014,SCR018,SCR022,SCR026,SCR030,SCR034,SCR038,SCR042,SCR046,
SCR050,SCR054,SCR058,SCR062,SCR066,SCR070,SCR074,
SCR078(1)NURSE(2)NURSE AIDE(3)MD(4)STAFF(5)DENTIST(6)VOLUNTEER/
SCR015,SCR019,SCR023,SCR027,SCR031,SCR035,SCR039,SCR043,SCR047,
SCR051,SCR055,SCR059,SCR063,SCR067,SCR071,SCR075,
SCR079(1)PATIENT UNCOOP(2)STAFF-EQUIP UNAVAIL(3)OTHER/
SCR083 TO SCR092(0)NOT CURRENT(1)CURRENT/
SCR094 (0)NOT FIRST(1)FIRST OCCURANCE/
PRB008 (1)COMPLETELY NEW(2)PREV KNOWN NO CARE(3)PREV UNDER CARE/
PRB016 (1)NON-SCREEN FINDING/
PRB017,PRB031 (0)DATA IN(1)DATA NOT PRESENT/
PRB021 TO PRB024(1)YES(2)NO/
PRB025 (1)NCDCA(2)DHR(3)DENTIST(4)PRIV PHY(5)HOSPITAL
(6)SPECIALIST(7)OTHER/
PRB028 (1)ACUTE(2)CHRONIC/
PRB029 (1)SYMPTOMATIC(2)ASYMPTOMATIC/
PRB035 (1)NURSE(2)NURSE AIDE(3)PHYSICIAN(4)STAFF(5)OTHER/
PRB036 (1)CONTACT WITH PHY(2)CONTACT PHY STAFF(3)PTS CARETAKER
(4)OTHER/
PRB037 (1)PERS INTERVIEW(2)TELEPHONE(3)MAIL(4)OTHER/
PRB038 (1)RECEIVED(2)NOT RECEIVED(3)REFERRED/
PRB039 (1)RESPONDING(2)NOT RESPONDING/
PRB040 (1)TREAT COMP FIRST VIS(2)TREAT COMP SUBSQ VIS
(3)STILL UNDER TREAT(4)TREAT NOT ADV-WAR(5)TREAT NOT AVAIL-AUTH
(6)FAM MOVED-NO FINANCE(7)PARENT UNCOOP(8)SUSP PROB NO PROB
(9)CODING-CLERK ERROR/
PRB041 (1)DROPPED FROM CENTER(2)FUNDS(3)SUBSEQUENT VISITS
(4)SURGERY REQUIRED(5)ABSENT-NO SHOW/
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PRINT FORMATS  CHS001,CHS005,NAME1 TO NAME6(A)/
DO REPEAT      XNEED=SCR012,SCR016,SCR020,SCR024,SCR028,SCR032,SCR036,SCR040,
               SCR044,SCR048,SCR052,SCR056,SCR060,SCR064,SCR068,SCR072,SCR076/
               XPERF=SCR015,SCR019,SCR023,SCR027,SCR031,SCR035,SCR039,SCR043,
               SCR047,SCR051,SCR055,SCR059,SCR063,SCR067,SCR071,SCR075,SCR079/
               XSIG=SCR013,SCR017,SCR021,SCR025,SCR029,SCR033,SCR037,SCR041,
               SCR045,SCR049,SCR053,SCR057,SCR061,SCR065,SCR069,SCR073,SCR077/
IF             (XPERF NE 0 AND XNEED NE 0)XSIG=2
IF             (XNEED EQ 0)XSIG=3
END REPEAT
RECODE         SCR003(0,15,30=0)/SCR005(37,66,70,73=0)
MISSING VALUES SCR003,SCR005(0)
COMPUTE        PY = SCR005 * 100 + SCR003
ASSIGN MISSING PY (99)
RECODE         PY(7408 THRU 7507=74)(7508 THRU 7607=75)(7608 THRU 7707=76)
MISSING VALUES CHS017 TO CHS021,CHS023,CHS026,CHS027(0)
COMPUTE        SCD=(SCR005 * 100) + SCR003
*SELECT IF     ((CHS006 EQ 0) AND (CHS004 EQ 1))
*COMPUTE       INTAKEDT=(CHS009 * 100) + CHS007
*COMPUTE       MEDICAID=0
*IF            (0 LT CHMCN01 OR CHMCN02)MEDICAID=1
*COMPUTE       DOB=(CHS014 * 100) + CHS012
COMPUTE        AGE=(SCR005-SCR009)
RECODE         AGE(0=1)(1=3)(2 THRU 4=4)(5 THRU 12=5)(13 THRU 21=6)
               (22 THRU HIGHEST=9)
MISSING VALUES AGE(9)
```

ATTACHMENT B.4

Developmental Screening Sheet

NATIONAL CHILD DAY CARE ASSOCIATION

DEVELOPMENTAL TEST SCORE SHEET

Child's Number: Ctr. / Child

Child's Name: Last / First

Birthdate: Mon. / Day / Yr.

Sex: ☐ Male ☐ Female

Test: ☐ Pre ☐ Post ☐ Control ☐ Other

Teacher Name: Last

PROFILE

	2	2½	3	3½	4	4½	5
Language	•	•	•	•	•	•	•
Cognition	•	•	•	•	•	•	•
v-motor	•	•	•	•	•	•	•
Memory	•	•	•	•	•	•	•

LANGUAGE TEST TAKEN? ☐ Yes ☐ No TREATMENT NEEDED? ☐ Yes ☐ No

Chronological Age: Yrs. / Mon.

Language Test Age: Yrs. / Mon.

Date of Test: Mon / Day / Yr

Examiner: Last Name

2 Years 0 Months

1. Number Correct (8 minimum) Minimum ☐Yes Reached ☐No
2. ☐ Yes ☐ No — Child reacts correctly

2 Years 6 Months

3. Number Correct (6 minimum) Minimum ☐Yes Reached ☐No
4. ☐ Yes ☐ No — Use of pronouns

3 Years 0 Months

5. Number Correct (10 minimum) Minimum ☐Yes Reached ☐No
6. Parts Correct (4 minimum) a b c d e f Minimum ☐Yes Reached ☐No
7. ☐ Yes ☐ No — Use of plurals
8. Parts Correct (3 details) Minimum ☐Yes Reached ☐No

3 Years 6 Months

9. ☐ Yes ☐ No — Use of past tense
10. Correct Responses (3 minimum) a b c d e Minimum ☐Yes Completed ☐No
11. Correct Responses (2 minimum) a b c Minimum ☐Yes Completed ☐No
12. Correct Responses (2 minimum) a b c Minimum ☐Yes Completed ☐No

4 Years 0 Months

13. Number Correct (13 minimum) Minimum ☐Yes Reached ☐No
14. Parts Correct (1 minimum) a b Minimum ☐Yes Reached ☐No
15. Parts Correct (9 minimum) a b c d e f g h i j k Minimum ☐Yes Reached ☐No

4 Years 6 Months

16. Correct Responses (6 minimum) Minimum ☐Yes Reached ☐No
17. Correct Responses (1 minimum) a b Minimum ☐Yes Reached ☐No
18. Correct Responses (4 minimum) M T W T F S S Minimum ☐Yes Reached ☐No

5 Years 0 Months

19. Correct Responses (5 minimum) a b c d e f g h Minimum ☐Yes Reached ☐No
20. Correct Responses (1 minimum) a b Minimum ☐Yes Reached ☐No

VISUAL MOTOR TAKEN? ☐ Yes ☐ No TREATMENT NEEDED? ☐ Yes ☐ No

Chronological Age: Yrs. / Mon.

Visual Motor Test Age: Yrs / Mon

Date of Test: Mon / Day / Yr

Examiner: Last Name

2 Years 0 Months

41. ☐ Yes ☐ No — Correctly Performed
42. ☐ Yes ☐ No — Correctly Performed R____

2 Years 6 Months

43. ☐ Yes ☐ No — Correctly Performed
44. ☐ Yes ☐ No — Correctly Performed

3 Years 0 Months

45. ☐ Yes ☐ No — Correctly Performed
46. ☐ Yes ☐ No — Correctly Performed
47. ☐ Yes ☐ No — Correctly Performed R____

3 Years 6 Months

48. ☐ Yes ☐ No — Correctly Performed
49. ☐ Yes ☐ No — Correctly Performed
50. ☐ Yes ☐ No — Correctly Performed

4 Years 0 Months

51. ☐ Yes ☐ No — Correctly Performed
52. ☐ Yes ☐ No — Correctly Performed R____
53. ☐ Yes ☐ No — Correctly Performed

4 Years 6 Months

54. ☐ Yes ☐ No — 3 Parts Distinguishable
55. ☐ Yes ☐ No — Correctly Performed
56. ☐ Yes ☐ No — Correctly Performed
57. ☐ Yes ☐ No — Correctly Performed

5 Years 0 Months

58. ☐ Yes ☐ No — 4 to 5 Parts Drawn
59. ☐ Yes ☐ No — Correctly Performed
60. ☐ Yes ☐ No — First Name written correctly

COGNITION TEST TAKEN? ☐ Yes ☐ No TREATMENT NEEDED? ☐ Yes ☐ No

Chronological Age: Yrs / Mon.

Cognition Test Age: Yrs / Mon

Date of Test: Mon / Day / Yr

Examiner: Last Name

2 Years 0 Months

21. ☐ Yes ☐ No — Correctly Performed
22. ☐ Yes ☐ No — Isolated 1 block
23. ☐ Yes ☐ No — Correctly Performed

2 Years 6 Months

24. ☐ Yes ☐ No — Isolated 1 block
25. ☐ Yes ☐ No — Correctly Identified

3 Years 0 Months

26. Correct Response (1 minimum) A B Minimum ☐Yes Performed ☐No
27. Correct Response (1 minimum) A B Minimum ☐Yes Performed ☐No

3 Years 6 Months

28. ☐ Yes ☐ No — Correct response
29. ☐ Yes ☐ No — 1 successful Trial R____
30. ☐ Yes ☐ No — Correct response

4 Years 0 Months

31. ☐ Yes ☐ No — Isolated 2 blocks
32. Correct Response (1 minimum) A B Minimum ☐Yes Performed ☐No
33. Number Correct (7 minimum) Minimum ☐Yes Reached ☐No

4 Years 6 Months

34. ☐ Yes ☐ No — Correct Response
35. ☐ Yes ☐ No — Isolated 3 blocks
36. ☐ Yes ☐ No — Arranged by Size Increasing or Decreasing
37. Number Correct (3 minimum) Minimum ☐Yes Reached ☐No

5 Years 0 Months

38. Parts Correct (2 minimum) a b c Minimum ☐Yes Reached ☐No
39. Correct Response (2 minimum) P N D Minimum ☐Yes Reached ☐No
40. ☐ Yes ☐ No — Isolated 4 blocks

MEMORY TAKEN? ☐ Yes ☐ No TREATMENT NEEDED? ☐ Yes ☐ No

Chronological Age: Yrs. / Mon

Memory Test Age: Yrs / Mon

Date of Test: Mon. / Day / Yr

Examiner: Last Name

3 Years 0 Months

61. ☐ Yes ☐ No — Correctly repeated 1 Successful Trial
62. ☐ Yes ☐ No — Correctly Performed

3 Years 6 Months

63. ☐ Yes ☐ No — Recalls a minimum of 2 objects
64. ☐ Yes ☐ No — Correctly Initiated Both Actions
65. Number Correct (2 minimum) Minimum ☐Yes Reached ☐No

4 Years 0 Months

66. ☐ Yes ☐ No — Correctly Performed
67. ☐ Yes ☐ No — Correctly Recalled A____
68. Number recalled (3 minimum) Minimum ☐Yes Reached ☐No

4 Years 6 Months

69. ☐ Yes ☐ No — Correctly Identified
70. Correct Responses (3 minimum) a b c d e f Minimum ☐Yes Reached ☐No
71. Number Recalled (5 minimum) Minimum ☐Yes Reached ☐No

5 Years 0 Months

72. ☐ Yes ☐ No — Copied in correct sequence

OBSERVATIONS

LANGUAGE TEST – Picture Vocabulary
(Circle correct response)

1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17

ATTACHMENT B.5

SPSS Variable List and Variable Labels for
the Developmental Complete File and
the Summary Cards on Pre- and Post-Test Results

```
PRE001,CENTER ID/
PRE002,CHILD ID NO/
NAME1,FIRST 4 LETTERS OF NAME/
NAME2,SECOND 4 LETTERS OF NAME/
NAME3,THIRD 4 LETTERS OF NAME/
NAME4,FOURTH 4 LETTERS OF NAME/
NAME5,FIFTH 4 LETTERS OF NAME/
NAME6,LAST TWO LETTERS OF NAME/
PRE005,SEX/
PRE006,MONTH OF BIRTH/
PRE007,DAY OF BIRTH/
PRE008,YEAR OF BIRTH/
PRE009,MONTH OF LANGUAGE TEST/
PRE010,DAY OF LANGUAGE TEST/
PRE011,YEAR OF LANGUAGE TEST/
PRE012,LANGUAGE CHRONOLOGICAL AGE/
PRE013,LANGUAGE DEVELOPMENTAL AGE/
PRE014,MONTH OF VISUAL MOTOR TEST/
PRE015,DAY OF VISUAL MOTOR TEST/
PRE016,YEAR OF VISUAL MOTOR TEST/
PRE017,VISUAL MOTOR CHRONOLOGICAL AGE/
PRE018,VISUAL MOTOR DEVELOPMENTAL AGE/
PRE019,MONTH OF COGNITION TEST/
PRE020,DAY OF COGNITION TEST/
PRE021,YEAR OF COGNITION TEST/
PRE022,COGNITION CHRONOLOGICAL AGE/
PRE023,COGNITION DEVELOPMENTAL AGE/
PRE024,MONTH OF MEMORY TEST/
PRE025, DAY OF MEMORY TEST/
PRE026,YEAR OF MEMORY TEST/
PRE027,MEMORY CHRONOLOGICAL AGE/
PRE028,MEMORY DEVELOPMENTAL AGE/
PRE029,SCHOOL YEAR/
PRE030,PLACEMENT/
PRE031,GROUP NO/
PRE032,DEVELOPMENTAL TREATMENT/
PRE033,EMOTIONAL TREATMENT/
POS001,CENTER ID/
POS002,CHILD ID NO/
POS005,SEX/
POS006,MONTH OF BIRTH/
POS007,DAY OF BIRTH/
POS008,YEAR OF BIRTH/
POS009,MONTH OF LANGUAGE TEST/
POS010,DAY OF LANGUAGE TEST/
POS011,YEAR OF LANGUAGE TEST/
POS012,LANGUAGE CHRONOLOGICAL AGE/
POS013,LANGUAGE DEVELOPMENTAL AGE/
POS014,MONTH OF VISUAL MOTOR TEST/
POS015,DAY OF VISUAL MOTOR TEST/
POS016,YEAR OF VISUAL MOTOR TEST/
POS017,VISUAL MOTOR CHRONOLOGICAL AGE/
POS018,VISUAL MOTOR DEVELOPMENTAL AGE/
POS019,MONTH OF COGNITION TEST/
POS020,DAY OF COGNITION TEST/
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                POS021,YEAR OF COGNITION TEST/
                POS022,COGNITION CHRONOLOGICAL AGE/
                POS023,COGNITION DEVELOPMENTAL AGE/
                POS024,MONTH OF MEMORY TEST/
                POS025, DAY OF MEMORY TEST/
                POS026,YEAR OF MEMORY TEST/
                POS027,MEMORY CHRONOLOGICAL AGE/
                POS028,MEMORY DEVELOPMENTAL AGE/
                POS029,SCHOOL YEAR/
                POS030,PLACEMENT/
                POS031,GROUP NO/
                POS032,DEVELOPMENTAL TREATMENT/
                POS033,EMOTIONAL TREATMENT/
VALUE LABELS    PRE030(1)EXPERIMENTAL(2)CONTROL/
                PRE031(01)I(02)I A(03)I B(04)II(05)II A(06)II B
                (07)III(08)III A(09)III B(10)IV(11)IV A(12)IV B
                (13)V(14)V A(15)V B(16)V C(17)VI/
                PRE032(1)IN TREATMENT(2)NO TREATMENT/
                PRE033(1)IN THERAPEUTIC CLASSROOM(2)ROVING TEACHER MODEL
                (3)NO EMOTIONAL TREATMENT/
                PRE005(1)FEMALE(2)MALE/
MISSING VALUES PRE012,PRE013,PRE017,PRE018,PRE022,PRE023,PRE027,PRE028(0)
VALUE LABELS    POS030(1)EXPERIMENTAL(2)CONTROL/
                POS031(01)I(02)I A(03)I B(04)II(05)II A(06)II B
                (07)III(08)III A(09)III B(10)IV(11)IV A(12)IV B
                (13)V(14)V A(15)V B(16)V C(17)VI/
                POS032(1)IN TREATMENT(2)NO TREATMENT/
                POS033(1)IN THERAPEUTIC CLASSROOM(2)ROVING TEACHER MODEL
                (3)NO EMOTIONAL TREATMENT/
                POS005(1)FEMALE(2)MALE/
MISSING VALUES POS012,POS013,POS017,POS018,POS022,POS023,POS027,POS028(0)
ALLOCATE        TRANSPACE=15000
SELECT IF       (PRE029 GE 2)
COMPUTE         MEMIMP=POS028-PRE028
COMPUTE         LANIMP=POS013-PRE013
COMPUTE         VISIMP=POS018-PRE018
COMPUTE         COGIMP=POS023-PRE023
COMPUTE         LPRLAG=PRE013-PRE012
COMPUTE         VPRLAG=PRE018-PRE017
COMPUTE         CPRLAG=PRE023-PRE022
COMPUTE         MPRLAG=PRE028-PRE027
COMPUTE         LPOLAG=POS013-POS012
COMPUTE         VPOLAG=POS018-POS017
COMPUTE         CPOLAG=POS023-POS022
COMPUTE         MPOLAG=POS028-POS027
ASSIGN MISSING MEMIMP TO MPOLAG(99)
IF              ((PRE032 EQ 2) AND (PRE031 EQ 2 OR 3))PRE031 = 1
IF              ((PRE032 EQ 2) AND (PRE031 EQ 5 OR 6))PRE031 = 4
IF              ((PRE032 EQ 2) AND (PRE031 EQ 8 OR 9))PRE031 = 7
IF              ((PRE032 EQ 2) AND (PRE031 EQ 11 OR 12))PRE031 = 10
IF              ((PRE032 EQ 2) AND (PRE031 EQ 14 OR 15))PRE031 = 13
COMPUTE         GROUP=PRE030
IF              (PRE032 EQ 2) GROUP=20
COMPUTE         LANGRES=0
IF              (LPRLAG GT LPOLAG) LANGRES=1
```

```
IF              (LPRLAG EQ LPOLAG) LANGRES=2
IF              (LPRLAG LT LPOLAG) LANGRES=3
COMPUTE         NWLPRLAG=0
IF              ((PREO12 LE 41) AND (LPRLAG LE -2))NWLPRLAG=2
IF              ((PREO12 GE 42 AND LE 47) AND (LPRLAG LE -6))NWLPRLAG=6
IF              ((PREO12 GE 48 AND LE 53) AND (LPRLAG LE -8))NWLPRLAG=8
IF              ((PREO12 GE 54 AND LE 65) AND (LPRLAG LE -10))NWLPRLAG=10
COMPUTE         NWVPRLAG=0
IF              ((PREO17 LE 35) AND (VPRLAG LE -2))NWVPRLAG=2
IF              ((PREO17 GE 36 AND LE 41) AND (VPRLAG LE -1))NWVPRLAG=1
IF              ((PREO17 GE 42 AND LE 47) AND (VPRLAG LE -4))NWVPRLAG=4
IF              ((PREO17 GE 48 AND LE 53) AND (VPRLAG LE -6))NWVPRLAG=6
IF              ((PREO17 GE 54 AND LE 59) AND (VPRLAG LE -7))NWVPRLAG=7
IF              ((PREO17 GE 60 AND LE 65) AND (VPRLAG LE -10))NWVPRLAG=10
COMPUTE         NWCPRLAG=0
IF              ((PREO22 LE 41) AND (CPRLAG LE -6))NWCPRLAG=6
IF              ((PREO22 GE 42 AND LE 47) AND (CPRLAG LE -7))NWCPRLAG=7
IF              ((PREO22 GE 48 AND LE 53) AND (CPRLAG LE -8))NWCPRLAG=8
IF              ((PREO22 GE 54 AND LE 65) AND (CPRLAG LE -10))NWCPRLAG=10
COMPUTE         NWMPRLAG=0
IF              ((PREO27 GE 36 AND LE 41) AND (MPRLAG LE 0))NWMPRLAG=1
IF              ((PREO27 GE 42 AND LE 47) AND (MPRLAG LE -6))NWMPRLAG=6
IF              ((PREO27 GE 48 AND LE 53) AND (MPRLAG LE -8))NWMPRLAG=8
IF              ((PREO27 GE 54 AND LE 65) AND (MPRLAG LE -9))NWMPRLAG=9
COMPUTE         NWLPOLAG=0
IF              ((POSO12 LE 41) AND (LPOLAG LE -2))NWLPOLAG=2
IF              ((POSO12 GE 42 AND LE 47) AND (LPOLAG LE -6))NWLPOLAG=6
IF              ((POSO12 GE 48 AND LE 53) AND (LPOLAG LE -8))NWLPOLAG=8
IF              ((POSO12 GE 54 AND LE 65) AND (LPOLAG LE -10))NWLPOLAG=10
COMPUTE         NWVPOLAG=0
IF              ((POSO17 LE 35) AND (VPOLAG LE -2))NWVPOLAG=2
IF              ((POSO17 GE 36 AND LE 41) AND (VPOLAG LE -1))NWVPOLAG=1
IF              ((POSO17 GE 42 AND LE 47) AND (VPOLAG LE -4))NWVPOLAG=4
IF              ((POSO17 GE 48 AND LE 53) AND (VPOLAG LE -6))NWVPOLAG=6
IF              ((POSO17 GE 54 AND LE 59) AND (VPOLAG LE -7))NWVPOLAG=7
IF              ((POSO17 GE 60 AND LE 65) AND (VPOLAG LE -10))NWVPOLAG=10
COMPUTE         NWCPOLAG=0
IF              ((POSO22 LE 41) AND (CPOLAG LE -6))NWCPOLAG=6
IF              ((POSO22 GE 42 AND LE 47) AND (CPOLAG LE -7))NWCPOLAG=7
IF              ((POSO22 GE 48 AND LE 53) AND (CPOLAG LE -8))NWCPOLAG=8
IF              ((POSO22 GE 54 AND LE 65) AND (CPOLAG LE -10))NWCPOLAG=10
COMPUTE         NWMPOLAG=0
IF              ((POSO27 GE 36 AND LE 41) AND (MPOLAG LE 0))NWMPOLAG=1
IF              ((POSO27 GE 42 AND LE 47) AND (MPOLAG LE -6))NWMPOLAG=6
IF              ((POSO27 GE 48 AND LE 53) AND (MPOLAG LE -8))NWMPOLAG=8
IF              ((POSO27 GE 54 AND LE 65) AND (MPOLAG LE -9))NWMPOLAG=9
VALUE LABELS    NWLPRLAG(2)LESS THAN 42(6)42 TO 47(8)48 TO 53(9)54 TO 65/
                NWVPRLAG(2)LESS THAN 36(1)36 TO 41(4)42 TO 47(6)48 TO 53
                (7)54 TO 59(10)60 TO 65/NWCPRLAG(6)LESS THAN 42(7)42 TO 47
                (8)48 TO 53(10)54 TO 65/NWMPRLAG(1)36 TO 41(6)42 TO 47
                (8)48 TO 53(9)54 TO 65
```

ATTACHMENT B.6

Individual Growth and Progress Chart Originally Intended to Complete the Personal, Social and Motor Development Portion of Developmental Screening

NATIONAL CHILD DAY CARE ASSOCIATION

Individual Growth and Progress Report

Child's Number _____ _____ (Ctr / Child)

Child's Name _____ (Last) _____ (First)

Center _____ Birth date _____ (Mon / Day / Yr) Age _____ (Yrs / Mon)

Date of Report _____ (Mon / Day / Yr)

Date child entered center _____ (Mon / Day / Yr)

Days absent Jan. report _____

Days absent May report _____

Personal History ☐ Yes ☐ No

January Yes	January No	January Excp		May Yes	May No	May Excp
			I. REST			
			Morning			
			1. Relaxes and accepts			
			2. Finds it difficult to quiet down			
			Afternoon Naptime			
			1. Goes to sleep			
			2. Rest quietly			
			3. Disturbs others			
			4. Needs to be separated from others			
			January comment _____			
			May comment _____			
			II. PERSONAL–SOCIAL DEVELOPMENT			
			(2.0) Age			
			1. Is toilet trained			
			2. Engages in parallel play			
			3. Can remove one article of clothing			
			4. Can feed himself with a spoon reasonably well			
			(2.6) Age			
			1. Can put on coat			
			2. Can recognize self in mirror			
			3. Can remove his shoes			
			4. Plays interactive games (i.e. peek-a-boo)			
			5. Can hold small glass with one hand			
			(3.0) Age			
			1. Can unbutton accessible buttons			
			2. Can put on shoes and socks (tying not requi.)			
			3. Can use a fork			
			4. Can wipe up spilled liquids			
			5. Can wash and dry hands reasonably well			
			6. Plays cooperatively with other children, i.e. (circle games)			
			(3.6) Age			
			1. Can brush his teeth			
			2. Attempts to help with household task			
			3. Can button large buttons			
			4. Understands taking turns			
			5. Shares upon request			
			6. Can serve himself at mealtime with little or no assistance			

January Yes	January No	January Excp		May Yes	May No	May Excp
			(4.0) Age			
			1. Can distinguish front from back of clothing			
			2. Engages in group play			
			3. Can wash face and hands with little supervision			
			4. Can put away toys and personal belongings			
			5. Can go to bathroom alone			
			6. Can dio with little or no assistance			
			(4.6) Age			
			1. Can lace his shoes			
			2. Has special friends			
			3. Engages in imaginative play and utilizes costumes - materials to make it more realistic			
			4. Calls attention to own performance (i.e. "look what I did")			
			5. Is cautious about common dangers (i.e. unprotected places, strange animals, sharp utensils)			
			(5.0) Age			
			1. Can tie own shoes			
			2. Can use knife with partial success			
			3. Plays competitive exercise games (i.e. hop scotch, hide & seek)			
			4. Accepts adult supervision and tries to conform to rules and regulations			
			5. Can dress and undress alone			
			6. Can care for self totally in bathroom			
			January comment _____			
			May comment _____			
			III. MOTOR DEVELOPMENT			
			(2.0) Age			
			1. Climbs steps one at a time (Puts both feet on the same step)			
			2. Is able to squat and balance self without support			
			3. Is able to run with infrequent falls			
			4. Can kick a medium size ball			
			5. Can throw a small ball underhand			
			(2.6) Age			
			1. Can jump			

Yes	No	Exp		Yes	No	Exp
			2. Can balance self on one foot (1 second)			
			3. Can walk on toes after demonstration			
			4. Can broadjump over a small object			
			5. Can raise one hand over head			
			(3.0) Age			
			1. Can walk backwards			
			2. Can hop			
			3. Can balance on one foot (5 seconds)			
			(3.6) Age			
			1. Can perform circular movement using arms			
			2. Can catch bounced ball			
			3. Can imitate heel to toe walking			
			4. Can broadjump (approximately 12 inches)			
			5. Can gallop			
			(4.0) Age			
			1. Can throw small ball overhand			
			2. Can skip			
			3. Can handle fragile objects			
			4. Can ride a tricycle			
			5. Can put one hand on shoulder - other hand on hip			
			6. Can alternate hop			
			(4.6) Age			
			1. Child can bend over and touch toes without falling on face			
			2. Able to jump up approximately one foot			
			3. Climbs steps like an adult			
			4. Is able to stand on one foot and put one hand on the other elbow			
			(5.0) Age			
			1. Can jump rope			
			2. Can perform side-straddle hop (jumping jack)			
			3. Is able to touch nose with index finger			
			4. Can continuously bounce large ball			
			5. Can imitate the jumping action of a frog			
			January comments _____			
			May comments _____			
			IV. SMALL MUSCLE DEVELOPMENT			
			1. Good coordination of hand & eye movements			
			a. Child can handle and place objects accurately			
			b. Child can carry and pour liquids without spilling			
			2. Child is right handed			
			Child is left handed			
			Child uses both hands			
			3 Child can use			
			a. scissors			
			b. blocks			
			c. tools			
			d. crayons			

Yes	No	Exp		Yes	No	Exp
			January comments _____			
			May comment _____			
			V. RESPONSE TO ENVIRONMENT			
			A. Creative Art Activities			
			1. Usually participates			
			2. Needs adult encouragement to participate			
			3. Describes work verbally			
			4. Attention span is average			
			5. Seems to gain personal satisfaction from work			
			6. Willing to work with "messy" materials			
			7. Experiments with color and composition			
			January comment _____			
			May comment _____			
			B. Dramatic Play (Doll corner, dress-up, puppetry, outdoor dramatics, blocks, trucks, etc.)			
			1. Usually participates			
			2. In which of the above areas _____			
			3. Usual roles			
			4. Describe a typical play activity _____			
			VI. STORIES			
			A. Enjoys books during free play			
			B. Takes pleasure in story telling			
			1. Listens attentively			
			2. Has good comprehension			
			3. Remembers stories previously read			
			4. Participates in discussion			
			January comment _____			
			May comment _____			
			VII. MUSIC			
			A. Participates in			
			1. Singing			
			2. Listening			
			3. Rhythms and dance			
			4. Instruments			
			B. Responds spontaneously and is relaxed			
			C. Attention span is average			
			D. Needs adult encouragement to participate			
			January comment _____			

Yes	No	Exp		Yes	No	Exp
			May comment _____			
			_____			
			VIII. EMOTIONAL DEVELOPMENT			
			(Check traits which are present)			
			1. Shares with other children			
			2. Thumb sucking			
			3. Neat			
			4. Orderliness			
			5. Sense of time			
			6. Overly neat			
			7. Lack of aggressiveness			
			8. Shyness			
			9. Accepts praise			
			10. Relates to peers of the same sex			
			11. Relates to adults of the same sex			
			12. Enjoys playing alone at times			
			13. Enjoys playing with others			
			14. Respects the rights of others			
			15. Cries when familiar adult leaves			
			16. Clings excessively to unfamiliar adults			
			17. Unduly sleepy			
			18. Attraction for peer group members of the opposite sex			
			19. Fears loss of contact with an adult			
			20. Relates to inanimate objects			
			21. Relates to other people			
			22. Attraction for adult group members of opposite sex			
			23. Has a sense of self-worth			
			24. High degree of dependency			
			25. Passive behavior with other children			
			26. Appropriately aggressive			
			27. Commits self-destructive acts			
			28. Hitting others			
			29. Pulling others			
			30. Biting others			
			31. Good memory			
			32. Coordinated in motor area			
			33. Child tests the limits			
			34. Can delay gratification			
			35. Day dreams			
			36. Inability to concentrate			
			37. Often blames others			
			38. Denies responsibility for acts			
			39. Has trouble accepting role			
			40. Curiosity			
			41. Creativity			
			42. Explorative			
			43. Manual dexterity			
			January comments _____			
			_____			
			_____			

Yes	No	Exp		Yes	No	E
			_____			
			May comment _____			
			_____			
			_____			
			Psychiatrist's comment _____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			_____			
			IX. INTELLECTUAL DEVELOPMENT			
			A. Solves problems for self			
			B. Ability to carry work through to completion			
			C. Independent in thinking and acting			
			D. Ability to choose and decide			
			E. Alert and interested in things going on			
			F. Responds to suggestion			
			G. Shows imagination			
			H. Memory in general is good			
			I. Reasoning in general is good			
			J. Can follow directions			
			K. Asks many questions			
			L. Able to answer questions appropriately			
			M. Language			
			1. Feels free to speak			
			2. Speaks rarely			
			3. Speech defects			
			4. Speech is intelligible			
			5. Speaks in complete sentences			
			6. Has good articulation			
			7. Able to listen as member of group			
			8. Able to identify environmental sounds			
			9. Has vocabulary relative to age			
			January comment _____			
			_____			
			_____			

Yes	No	Exp.		Yes	No	Exp
			May comment _____			
			_____			
			_____			
			X. FAMILY BACKGROUND			
			A. Lives with two parents			
			B. Lives with one parent			
			C. Lives with other relative or guardian			
			D. Parent's relations to child seems to be:			
			1. accepting			
			2. negligent			
			3. perceptive			
			4. remote			
			5. punitive			
			6. over-indulgent			
			7. inconsistent			
			E. Parents cooperative with center			
			F. Parents attend parent meeting			
			Describe major changes or problems in family situation _____			
			_____			
			_____			
			_____			
			January comment _____			
			_____			
			May comment _____			
			_____			
			_____			
			Teacher's signature			
			January _____			
			May _____			

ATTACHMENT B.7

Emotional Checklist for Summarized Observations for Screening Emotional Problems

ATTACHMENT B.7

Emotional Checklist

Ratings of Emotional Levels in Each Test Period

	School Year 1975-76		School Year 1976-77		
	Pre-Test	Post-Test	Pre-Test	Post-Test	
Level	1	2	3	4	Total
Number below Average	118	132	88	40	378
Percent	34.2	42.3	27.1	15.6	30.5
Number Average	225	147	208	196	776
Percent	65.2	47.1	64.0	76.3	62.6
Number Mature	2	33	29	21	85
Percent	0.6	10.6	8.9	8.2	6.9
Total Number of Checklists Completed	343	312	325	257	1,239

ATTACHMENT B.8

SPSS Variable List and Value Labels for
the Emotional Checklist

```
VAR001,CENTER ID/
VAR002,CHILD NO/
VAR003,NAME1/
VAR004,NAME2/
VAR005,NAME3/
VAR006,NAME4/
VAR007,NAME5/
VAR008,NAME6/
VAR009,DOB MONTH/
VAR010,DOB DAY/
VAR011,DOB YR/
VAR012,OBSERVATION MO/
VAR013,OBSERVATION DAY/
VAR014,OBSERVATION YR/
VAR015,CHRONOLOGICAL AGE YRS/
VAR016,CHRONOLOGICAL AGE MOS/
VAR017,WHY FORM NOT COMPLETE/
VAR018,TESTER CODE/
VAR019,TEACHER CODE/
VAR020,EMOTIONAL LEVEL/
EMO001,THUMBSUCKING/
EMO002,EXTERNAL CONTROL NEEDED/
EMO003,FEARS LOSS OF CONTACT WITH ADULTS/
EMO004,OVERRELATES TO INANIMATE OBJECTS/
EMO005,HIGH DEGREE OF DEPENDENCY/
EMO006,TROUBLE ACCEPTING ROLE/
EMO007,DAY DREAMS/
EMO008,UNDULY SLEEPY/
EMO009,NEED TO SEPARATE FROM GROUP/
EMO010,CLINGS EXCESSIVELY TO ADULTS/
EMO011,PASSIVE BEHAVIOR WITH OTHER CHILDREN/
EMO012,NEAT/
EMO013,ORDERLY/
EMO014,COMMITS SELF DESTRUCTIVE ACTS/
EMO015,SHY/
EMO016,ABUSIVE/
EMO017,OFTEN BLAMES OTHERS/
EMO018,SENSE OF TIME/
EMO019,ACCEPTS PRAISE/
EMO020,ENJOYS PLAYING ALONE AT TIMES/
EMO021,SENSE OF SELF WORTH/
EMO022,CAN DELAY GRATIFICATION/
EMO023,JUDGEMENT OF ACTS/
EMO024,APPROPRIATE THRESHOLD FOR FRUSTRATION/
EMO025,CONTROL DURING TRANSITION/
EMO026,SHARES WITH CHILDREN/
EMO027,RELATES TO PEERS OF SAME AND OPP SEX/
EMO028,ENJOYS PLAYING WITH OTHERS/
EMO029,RESPECTS RIGHTS OF OTHERS/
EMO030,APPROPRIATELY AGRESSIVE/
EMO031,CHILD TESTS LIMITS/
EMO032,MIMICS BEHAVIOR OF OTHERS/
EMO033,CURIOSITY/
EMO034,CREATIVITY/
EMO035,EXPLORATIVE/
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```
                EMO036,INABILITY TO CONCENTRATE/
                EMO037,ESTABLISH HANDEDNESS/
                EMO038,COORDINATED IN MOTOR AREA/
                EMO039,APPROPRIATE VERBALIZATION/
                PSYOO1,PSYCH COMMENTS/
                TRTOO2,TREATMENT GROUP REPEATED/
                TRT,ROSTER TREATMENT GRP/
                PSYCOM,ROSTER PSYCH COM/
                MULTTRT,MULTI-TREATMENT GROUPS/
VALUE LABELS    VAROO1('AH')ANTOINETT HARMON('PW')PHYLLIS WHEATLEY('TH')
                TYLER HOUSE('LW')LINCOLN WESTMORELAND('PL')PILGRIM
                ('LT')LINCOLN TEMPLE('GB')GIBSON PLAZA('HS')HAYES
                VARO20(1)BELOW AVERAGE(2)AVERAGE(3)MATURE/
                VARO17(1)ABSENT(2)NEW TO CENTER(3)DROPPED/
                EMOOO1 TO EMOO39(1)CHECKED(0)NOT CHECKED/
                TRT,TRTOO2(1)ROVING TEACHER MODEL(2)THERAPEUTIC CLASSROOM
                (3)LAB SCHOOL/
                PSYOO1,PSYCOM(1)ADJ REACT CHILDHOOD(2)MINIM BRAIN DYSFUNCT
                (3)PRECEPT LEARN DISORD(4)WITHDRAWN(5)BEHAVIOR DISORDER
                (6)HYPERACTIVE/
                MULTTRT(1)MULTI-TRT GRP/
MISSING VALUES  VARO18 TO VARO20(0)
PRINT FORMATS   VAROO1,VAROO3 TO VAROO8(A)
COMPUTE         CA=(VARO15*100)+VARO16
COUNT           ORALPERS=EMOOO1 TO EMOOO8(1)
COUNT           ORALINTP=EMOOO9 TO EMOO11(1)
COUNT           ANALPERS=EMOO12 TO EMOO14(1)
COUNT           ANALINTP=EMOO15 TO EMOO17(1)
COUNT           GENTPERS=EMOO18 TO EMOO25(1)
COUNT           GENTINTP=EMOO26 TO EMOO32(1)
COUNT           GENINTEL=EMOO33 TO EMOO35(1)
COUNT           GENPERS=EMOO36 TO EMOO39(1)
COMPUTE         OBSERVDT=(VARO14 * 100) + VARO12
COMPUTE         EMOLEVEL=0
IF              ((VARO20 EQ 1) AND (TRT NE 0))EMOLEVEL=1
IF              ((VARO20 EQ 1) AND (TRT LE 0))EMOLEVEL=2
IF              (VARO20 EQ 2)EMOLEVEL=3
VALUE LABELS    EMOLEVEL(1)LOWTRTED(2)LOWNOTRT(3)PASSED/
// A DCEMOT
```

ATTACHMENT B.9

Therapeutic Evaluation Form Used to Document Child Problems and Progress when child was in Emotional Treatment of the Therapeutic Classroom and Lab School

NATIONAL CHILD DAY CARE ASSOCIATION
THERAPEUTIC EVALUATION FORM

Child's Number [ ] [ ] (Dir. / Number) Child's Name [ ] (Last) [ ] (First) Date of Birth [ ][ ][ ] (Mo. Da. Yr.) Age [ ][ ] (Yr. Mo.) Male ☐ Female ☐

Center Referred from [ ]

Reasons for Referral _____ Date of entry [ ][ ][ ] (Mo. Da. Yr.)

Initial complaint by:
- ☐ Center Director only
- ☐ Psychiatrist only
- ☐ Both Center Director and Psychiatrist
- ☐ Developmental Team
- ☐ Other (Specify _____)

Center Returned to [ ]

Date of termination [ ][ ][ ] (Mo. Da. Yr.)

Length of enrollment [ ] weeks

Therapeutic teacher [ ]

FORM DISTRIBUTION
ORIGINAL - CHILD'S RECORD
COPY - RR1 TEXAS

Each area below is evaluated on a two week interval. SCALE: 1=Low 2=Medium Low 3=Normal 4=Medium High 5=High

AREA / DATE:	Mo.	Da.	Mo.	Da.	Mo.	Da.	Mo.	Da.	Mo.	Da	Mo.	Da.
RELATIBILITY												
Relates to mother												
Relates to father												
Relates to siblings												
Relates to peers												
Relates to teacher												
Relates to non-human objects												
IDENTIFICATION												
Identifies w/same sex parent												
Identifies w/opposite sex parent												
Identifies w/teacher												
Identifies w/peers												
Sees self as boy/girl												
Has sense of self-worth												
MOTILITY												
General motility												
Control during transitions												
PERCEPTION												
Auditory												
Visual												
Olfactory												
Tactical												
JUDGMENT												
Can interpret actions of others												
Knows consequences of own actions												
COPING MECHANISMS												
Overt aggression												
Withdraws												
Thumbsucks												
Withdrawal/disolacement												
REALITY TESTING												
Internal process												
External process												
MEMORY												
Short term (immediate recall)												
Long term												
VERBALIZATION												
General												
Tone												
NON VERBAL BEHAVIOR												
Gestures												
Facial expression												
PLAY BEHAVIOR												
Solitary												
Parallel												
Associative												
EXTERNAL CONTROL NEEDED												
ANTICIPATING												
DELAYS GRATIFICATION												
AVAILABILITY TO LEARN												

THERAPEUTIC EVALUATION FORM

Child's Number [ ][ ] Ctr. [ ][ ][ ] Number Child's Name [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] Last [ ][ ][ ][ ][ ][ ][ ][ ] First

DIAGNOSIS [ ]

TREATMENT _____

REASON FOR TERMINATION _____

1. Why terminated: _____

2. Behavior on entry: _____

3. Behavior on termination: _____

4. Parental and Center input: _____

ATTACHMENT B.10

Social Work Therapeutic Evaluation Form for
Purpose of Describing Progress made with Problems of Parents of the Children in
the Therapeutic Nursery School

NATIONAL CHILD DAY CARE ASSOCIATION
SOCIAL WORK EVALUATION FORM
THERAPEUTIC

Child's Number: Ctr. ____ Number ____

Child's Name: Last ____ First ____

Date of Birth: Mo. ____ Da. ____ Yr. ____

Medicaid Number ____

Age: Yr. ____ Mo. ____

Male ☐ Female ☐

Parents Name ____

Center Referred from ____

Date of Entry: Mo. ____ Da. ____ Yr. ____

Reasons for Referral ____

Referred by:
- ☐ Center Director
- ☐ Psychiatrist
- ☐ Teacher
- ☐ Other ____ (Specify)

Date of Termination: Mo. ____ Da. ____ Yr. ____

Social Worker ____

Form Distribution
Original – Child Record
Copy – R.R.I. Texas

EACH AREA BELOW IS EVALUATED WEEKLY

SCALE
1 = Always
2 = Often
3 = Sometimes
4 = Rarely
5 = Never

MONTH OF ____

Dates:	DAY	DAY	DAY	DAY	DAY	AVERAGE
I. Parent-Child Relationship (Observation in classroom and home)						
Does parent speak to the child?						
Does parent speak with child?						
Does parent listen to the child?						
Does parent smile at the child?						
Does parent touch the child?						
Does parent hug the child?						
Does the parent say "I love you" to the child?						
Does parent watch teacher/child interaction?						
II. Discipline						
Does parent hit the child?						
Does parent scream at the child?						
Is the parent firm with the child?						
Does the parent "hold the childs brakes?"						
Is the parent in control of the child?						
III. Separation						
Does the parent tell the child that he/she is leaving?						
Does the parent give the child a good bye hug?						
Does the parent explain that he/she will be back?						
Does the parent show anxiety when leaving the child?						
IV. During Private Consding Session						
Does parent make positive "I" statements?						
Does parent make positive parenthood statement?						
Does parent make positive statements about his/her child?						
Does parent ask questions?						
Does parent answer questions?						
V. Group Meeting						
Does the parent give opinions?						
Does the parent advise others?						
Is parent verbally supportive of own child?						
Is parent verbally supportive of other parents?						
Does the parent ask questions?						
Does the parent answer questions?						
Is the parent friendly in group?						
VI. General Impressions						
Does the parent have a positive self image?						
Does parent have a positive image of child?						
Is the parent friendly to his own environment?						
Is the parent attentive?						
Is the parent open?						
Is the parent generally happy?						

VII. COMMENTS:

APPENDIX C

Rates of Findings on Medical Screening Procedures
by Year Periodicity and Location

APPENDIX C
Rates of Positive Findings for Screening Procedure
By Location, Year, and Type of Screen (Original & Periodic)

Screen Steps	ORIGINALS PRESCHOOL 1973	74	75	76	TOTAL	AFTER SCHOOL 1973	74	75	76	TOTAL	SCHOOL 74	75	76	TOTAL	PERIODICS PRESCHOOL 1973	74	75	76	TOTAL	AFTER SCHOOL 1973	74	75	76	TOTAL	SCHOOL 74	75	76	TOTAL
MEASUREMENTS																												
# Tested	397	194	234	191	1,016	202	190	111	69	572	1	380	459	840	4	171	119	152	446	6	50	132	104	292	0	0	74	74
# Abn.	2	1	1	1	5	4	2	5	1	12	0	23	10	33	0	3	0	0	3	0	0	4	2	6	0	0	3	3
% Abn. Pos.Fdngs	1.0	.5	.4	.5	.5	2.0	1.1	4.5	1.5	2.1	0	6.1	2.2	3.9	0	1.8	0	0	.7	0	0	3.0	1.9	2.1	0	0	4.1	4.1
ENT																												
# Tested	391	194	233	188	1,006	195	190	111	69	565	1	381	459	841	4	171	119	153	447	6	50	132	104	292	0	0	74	74
# Abn.	9	14	22	12	57	4	4	12	2	22	1	43	60	104	0	11	12	17	40	1	2	7	10	20	0	0	19	19
% Abn.Pos.Fdngs	2.3	7.2	9.4	6.4	5.7	2.1	2.1	10.8	2.9	3.9	100.0	11.4	13.1	12.4	0	6.4	10.1	11.1	9.0	16.7	4.0	5.3	9.6	6.9	0	0	25.7	25.7
HEART																												
# Tested	391	195	233	188	1,007	195	200	111	69	565	1	381	459	841	4	170	119	153	446	6	50	132	104	293			74	74
# Abn.	3	1	6	2	12	3	3	3	1	10	0	3	9	12	0	1	0	4	5	0	1	3	1	5			1	1
% Abn.Pos.Fdngs	.8	.5	2.6	1.1	1.2	1.5	1.5	2.7	1.5	1.8	0	.8	2.0	1.4	0	.6	0	2.6	1.1	0	2.0	2.3	1.0	1.7			1.4	1.4
SKIN																												
# Tested	391	194	233	189	1,007	195	189	111	69	565	1	381	459	842	4	171	119	153	447	6	50	132	104	292			74	74
# Abn.	4	10	18	13	45	2	9	5	5	21	0	17	27	44	0	6	8	13	27	0	0	4	6	10			4	4
% Abn.Pos.Fdngs.	1.0	5.2	7.7	6.9	4.5	1.0	4.8	4.5	7.3	3.7	0	4.5	5.9	5.2	0	3.5	6.7	8.5	6.0	0	0	3.0	5.8	3.4			5.4	5.4
RESPIRATORY																												
# Tested	390	194	233	189	1,006	195	189	111	69	564	1	380	459	842	4	171	119	153	447	6	50	132	104	292			74	74
# Abn.	2	2	6	1	11	1	0	1	0	2	0	4	7	11	0	3	4	0	7	1	0	2	0	3			1	1
% Abn.Pos. Fdngs	.5	1.0	2.6	.5	1.1	.5	0	.9	0	.4	0	1.1	1.5	1.3	0	1.8	3.4	0	1.6	16.7	0	1.5	0	1.0			1.4	1.4
ORTHOPEDIC																												
# Tested	385	194	230	186	995	194	188	111	69	562	1	372	456	842	4	168	117	150	439	6	49	132	104	291			74	74
# Abn.	4	5	1	0	10	0	0	0	1	1	0	19	4	23	1	1	1	1	4	0	0	2	1	3			0	0
% Abn.Pos.Fdngs	1.0	2.6	.4	0	1.0	0	0	0	1.5	.2	0	5.1	.9	2.7	.0	.6	.9	.7		0	0	1.5	1.0	1.0			0	0
OTHER PHYSICAL																												
# Tested	23	18	32	11	83	10	9	11	2	32	0	69	53	122	0	15	13	11	39	0	3	6	7	16			6	6
# Abn.	6	14	19	3	42	3	6	6	1	16	0	43	33	76	0	11	7	5	23	0	0	4	3	7			5	5
% Abn.Pos.Fdngs.	26.1	77.8	59.4	27.3	30.0	30.0	66.7	54.6	50.0	50.0	0	62.3	66.3	62.3	0	73.3	53.9	45.5		0	0	66.7	42.9	43.8			83.3	83.3
BLOOD																												
# Tested	391	192	231	197	1,011	174	172	109	68	523	1	370	450	821	4	149	110	150	413	6	43	123	103	275			74	74
# Abn.	85	6	12	6	109	5	1	5	0	11	0	2	8	10	0	4	6	4	14	1	1	3	1	6			1	1
% Abn.Pos.Fdngs	21.7	3.1	5.2	3.1	10.8	2.9	6	4.6	0	2.1	0	.5	1.8	1.2	0	2.7	5.5	2.7	3.4	16.7	2.3	2.4	1.0	2.2			1.4	1.4
SEROLGY																												
# Tested	4	1	14	9	28	5	4	10	7	26	1	106	56	163	0	1	6	2	9	0	3	18	29	50			19	19
# Abn.	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
% Abn.Pos.Fdngs.	0	0	0	0	0	0	0	0	14.3	3.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
LEAD																												
# Tested	385	195	227	171	955	67	68	38	16	189	0	86	111	197	4	144	107	121	376	3	11	37	5	57			13	13
# Abn.	19	3	2	0	24	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	1			0	0
% Abn.Pos.Fdngs.	4.9	1.5	.9	0	2.5	0	0	0	0	0	0	0	0	0	0	0	.9	.8	.6		0	0	0	1.8			0	0
SICKLE CELL																												
# Tested	385	193	229	204	1,011	171	172	110	68	521	1	374	446	821	4	147	107	150	408	6	32	122	103	263			72	72
# Abn.	23	8	7	17	55	6	3	4	3	16	0	13	28	41	0	3	7	6	16	0	0	0	2	2			1	1
% Abn.Pos.Fdngs.	6.0	4.6	3.1	8.3	5.4	3.5	1.7	3.6	4.4	3.1	0	3.5	6.3	5.0	0	2.0	6.5	4.0	3.9	0	0	0	1.9	.8			1.4	1.4
URINALYSIS																												
# Tested	369	199	229	188	985	188	190	109	63	550	1	370	401	772	4	160	105	147	416	6	48	124	100	278			72	72
# Abn.	0	0	3	2	5	0	0	1	2	3	0	0	8	8	0	1	0	1	2	0	1	2	0	3			3	3
% Abn.Pos.Fdngs.	0	0	1.3	1.1	.5	0	0	11.1	3.2	.6	0	0	2.0	1.0	.0	1.0	0	.7	.5	0	2.1	1.6	0	1.1			4.2	4.2
TB																												
# Tested	234	167	181	163	745	109	162	108	65	444	0	365	445	810	2	142	111	132	387	5	51	128	104	288			74	74
# Abn.	1	0	1	0	2	0	0	0	1	1	0	1	3	4	0	4	0	1	5	0	0	0	0	0			1	1
% Abn.Pos.Fdngs.	.4	0	16	0	.3	0	0	0	1.5	.2	0	.3	.7	.5	0	2.8	0	.8	1.3	0	0	0	0	0			1.4	1.4
HEARING																												
# Tested	392	194	236	299	1,021	209	181	108	69	567	1	309	463	763	4	158	106	150	418	4	53	128	104	249			73	73
# Abn.	28	23	30	19	100	17	16	11	9	53	0	31	107	138	0	22	15	22	59	0	6	7	27	40			7	7
% Abn.Pos.Fdngs.	7.1	11.9	12.7	6.4	10.0	8.1	8.8	10.2	13.0	9.4	0	10.0	23.6	18.1	0	13.9	14.2	14.7	14.1	0	11.3	5.5	26.0	16.			9.6	9.6
VISION																												
# Tested	401	183	196	164	944	221	179	112	69	581	1	376	455	832	4	163	109	132	408	6	55	129	104	294			74	74
# Abn.	37	10	6	1	54	35	14	10	2	61	0	29	33	62	0	5	5	4	14	0	6	12	5	23			0	0
% Abn.Pos.Fdngs.	9.2	5.5	3.1	.6	5.7	15.8	7.8	8.9	2.9	10.5	0	7.7	7.3	7.5	0	3.1	4.6	3.0	3.4	0	10.9	9.3	4.8	7.8			0	0
DENTAL																												
# Tested	261	199	245	193	898	183	179	110	63	535	1	358	405	764	4	166	118	136	424	5	54	126	81	266			54	54
# Abn.	73	81	27	8	189	107	91	26	7	231	0	35	55	91	2	81	12	1	96	0	28	23	10	61			9	9
% Abn.Pos.Fdngs.	28.0	40.7	11.0	4.2	21.1	58.5	50.8	23.6	11.1	43.2	0	9.8	13.6	11.9	0	48.8	10.2	.7	22.6	0	51.9	18.3	12.4	22.9			16.7	16.7
OTHER																												
# Tested	1	0	1	0	2	0	0	1	0	1	0	0	6	6	0	0	0	0	0	0	1	0	0	1			1	1
# Abn	1	0	0	0	1	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0			1	1
% Abn.Pos.Fdngs	100.0	0	0	0	50.0	0	0	0	0	1	0	0	50.0	50.0	0	0	0	0	0	0	0	0	0	0			100.0	100.0

APPENDIX D

DSA Manual Items
(The full manual is available from
National Child Day Care Association)

DIRECTIONS

GENERAL TESTING CONSIDERATIONS: In assessment of preschool age children it is important to recognize the awesome experience that the "testing situation" is for many children. Consequently it is very important and essential to establish a positive and potentially productive relationship with the child.

L ANGUAGE

General Considerations: The language is divided into six (6) components. They are Active Vocabulary, Expressive Language, Concept formation as reflected in language articulation, Receptive (non-verbal) and sentence formulation.

2 years 0 months

1. Materials: Picture Recognition Cards

   E presents cards to child one at a time. Says, "WHAT IS THIS? or "WHAT DO YOU CALL THIS?" E points to each picture.

   Criterion: 8 minimum

2. Materials: Rubber ball

   E places ball outside of child's reach. Says, "GIVE ME THE BALL, PLEASE".

   Criterion: Child reacting correctly to the command.

2 years 6 months

3. Materials: 10 common objects (toothbrush, crayon, penny, block, button, spoon chair, pin, ball, rock)

   E places common objects in front of the child one at a time. Says, "WHAT IS THIS?" or WHAT DO YOU CALL THIS?" E holds or points to objects as E talks.

   Criterion: Correct identification of 6.

4. Materials: none

   E should observe child's speech for the use of pronouns.

   Criterion: Credit if child uses pronouns during conversation. A child may be prompted to use pronouns by responding to questions such as:
   (1) Who's sweater is this? (pointing to child's clothing)
   (2) Who brought you to school this morning?

5. Materials: Picture Recognition Cards

   E presents cards to child one at a time. Says, "WHAT IS THIS?" or "WHAT DO YOU CALL THIS? E points to each picture.

   Criteron: 10 minimum

6. Materials: doll

Hold doll for child to see. Say, "WHAT IS THIS?" as you point to various body parts.

(a) eye (d) head
(b) mouth (e) nose
(c) foot (f) thumb

Criterion: Correctly identify 4 body parts.

7. Materials: none

E observes child's speech for use of plurals.

Criterion: Observe for "s" sounds as well as irregular plural forms, i.e., feet teeth, etc.

Note: Examiner may ask indirect questions to determine presence of the concept of plurality.

8. Materials: Picture story card.
E presents card to the child. Says, "TELL ME WHAT YOU SEE IN THIS PICTURE."
E holds picture or child holds picture.

Criterion: Enumerate at least 3 details of the picture, i.e., people or objects.

3 years 6 months

9. Materials: none

E should observe the child's speech for the use of past tense markers.

Criterion: Credit the use of Ed endings as well as irregular formulations of past tense.

Note: Examiner may ask indirect questions to determine presence of the concept.

10. Materials: none

E makes sure to have child's attention: Says, "TELL ME WHAT WE_____?"

a) brush our teeth with
b) wash our hands with
c) drink water out of
d) play catch with
e) what we sit on

Criterion: a) toothpast, tooth brush
b) soap, water
c) glass, cup, water fountain
d) ball
e) seat, chair, floor, couch, "behind"

11. Materials: Small book (or object)

E gives book to child. Says, "PUT THE BOOK (or OBJECT)_____

a) under the table
b) in front of me
c) behind me

After each command, E retrieves the book.

Criterion: 2 correct responses.

*Hand object to child each time.
Me refers to Examiner.

12. Materials: none

E insures to have child's attention. Says, "WHAT DO YOU DO WHEN_____"

a) it is cold?
b) you are sleepy?
c) you are hungry?

Criterion: a) turn on heat; put on clothes, or bedcovering
b) go to bed; close eyes; rest; put on pajamas
c) eat; tell Mommy to fix something to eat, go to the store, market

Child should do 2 correctly

4 years 0 months

13. Materials: Picture Recognition cards.

E presents cards to child one at a time. Says, "WHAT IS THIS?" or "WHAT DO CALL THIS?" E points to each picture.

Criterion: 13 minimum

14. Materials: None

E says, "_____"
a. If Brother is a boy, sister is a
b. If Father is a man, Mother is a

Criterion: a) girl b) woman, lady. Child must get 1 correct.

15. Materials: None

E says, "Say," _____"

(a) yes	(e) fun	(i) church
(b) jar	(f) stop	(j) squirrel
(c) kite	(g) thumb	(k) tooth
(d) games	(h) ship	

Criterion: E should listen for : "y" sound in yes, "j" sound in jar, "k" sound in kite, etc. Endings such as "ch" in church and "th" in tooth are important.

4 years 6 months

16. Materials: None

E gets the child's attention and then says to child, "LET ME HERE YOU COUNT" FROM ONE TO TEN."

Criterion: Child must say six of the words and credit must be given even when the order is confused.

17. Materials: None

E says, "DO YOU KNOW WHAT A RHYME IS?" This is a rhyme, "WIGGLE YOUR TOES AND TOUCH YOUR NOSE. NOSE RHYMES WITH TOES." Then E says, "FINISH THIS RHYME_____

(a) I STAND ON THE FLOOR AND I SHUT THE_____.
(b) YOU SIT IN A CHAIR AND COMB YOUR_____.

Criterion: Child must get one correct.
(a) door (b) hair

18. Materials: None

E says, "WHAT ARE THE DAYS OF THE WEEK?"

Criterion: Four days minimum, not necessarily in order.

Note: If child does not respond, direct questions may be used, i.e.,
(1) What day is today? (2) Yesterday

5 years 0 months

19. Materials: None

E says to child, "WHAT IS (AN)_____?"

(a) orange	(d) house	(g) wagon
(b) hat	(e) book	((h) cushion
(c) ball	(f) floor	

Criterion: Acceptable answers include definition by usage, i.e. - cushion - something you sit on, or description, or description. 5 minimum

20. Materials: None

E says, "LISTEN AND REPEAT WHAT I DAY" (E cannot repeat question)

(A) "WE ARE GOING TO BUY SOME CANDY FOR MOTHER."

(B) "BILL RAN THROUGH THE WOODS TO GRANDMA'S HOUSE."

Criterion: Exact repetition of sentence. Minimum - one.

COGNITION

General considerations: The developmental system is one which facilitates the adaptation of the person to the many facets of his environment. Included under the concept of adaptation might be: 1) skills for problem-solving, 2) ability to select and identify equivalent alternatives and 3) mental operations with which one can manipulate the environment. These mental operations would include classification skills, seriation skills, discrimination skills and the development of number concepts. Finally, one would anticipate that the child would have an appreciation for the concepts of "object", "space", "time", and causality.

2.0 Level

21. Materials: Blocks

E places 5 blocks in front of child, in disarray. E says, "PUT THESE IN A LINE."

Criterion: Correct arrangement

22. Materials: Blocks

Leave blocks on table, Say, "GIVE ME ONE BLOCK; PUT IT HERE." E points to a spot on the table.

Criterion: Isolates one block.

23. Materials: Toy automobile box

While child watches E hides a car under a box. Leave box and car on table. Say, "WHERE IS THE CAR?"

Criterion: Child removing or telling E where car is.

2.6 Level

24. Materials: Blocks

Put blocks on table, say "GIVE ME ONE BLOCK. PUT IT HERE." E points to spot on table.

Criterion: Isolates one block.

25. Materials: Screen, Picture of Automobile

Using a screen, E places a picture of an automobile on the table. Cover all but the hood. Say, "O.K., WHAT IS THIS?"

Criterion: Identifies automobile or car.

3.0 Level

26. Materials: Card with circles on it.

A. Present picture of big and little circles. Say, "WHICH IS BIGGER?"

Criterion: Bigger circle.

B. Reverse the stimulus card, while child watches. Say, "NOW, WHICH IS BIGGER?" (NOTES: Be sure to use BIGGER, not biggest or another variation.)
1 minimum.

27. Materials: Picture of child on Seesaw

Present picture of children on seesaw.

A. Say, "WHICH IS UP?"
B. Say, "WHICH IS DOWN?"

Criterion: 1 minimum.

Note: Child may point to correct answer.

28. Materials: Card with four geometric shapes

Present card with four geometric shapes (circle, square, triangle, rectangle). Say, "SHOW ME THE CIRCLE."

Criterion: Correct identification.

*Child may point to correct answer.

29. Materials: Two triangles; picture of a square

Present "two triangles". While showing child a picture of a square, E says, "PUT THESE TOGETHER TO LOOK LIKE THIS." (2 trials)

Criterion: 1 successful trial

30. Materials: None

Say, "WHY DO CLOUDS MOVE?"

Criterion: Categories of answers might include: 1) "God" for younger children. 2) "The wind"

4.0 Level

31. Materials: Blocks

E presents 5 blocks in disarray. Says, "GIVE ME 2 BLOCKS, PUT THEM HERE". E points to spot on table.

Criterion: Isolates 2 blocks.

32. Materials: None

Say, A. "WHEN DO YOU PUT ON YOUR PAJAMAS?"
B. "WHEN DO YOU EAT BREAKFAST?"

Criterion: 1 correct -- Child must show an awareness of time.
(A) When I go to bed, nighttime; after my bath
(B) Morning; before I go to school

33. Materials: 10 household objects

E presents objects to child one at a time. Say, "THIS IS A _____, ISN'T IT? WHERE DOES THIS BELONG IN THE HOUSE?"

Criterion: 7 minimum - Child should give location or usage of the object. The name of the object is not that important.

4.6 Level

34. Materials: None

Say, "IF I CUT AN APPLE IN HALF, HOW MANY PIECES WILL I HAVE?"

Criterion: Correct answer 2.

35. Materials: Blocks

E presents 5 blocks in disarray to child. Say, "GIVE ME 3 BLOCKS; PUT THEM HERE."

Criterion: Isolates 3 blocks

36. Materials: Seriation sticks

E presents seriation sticks in disarray. Say, "PUT THESE IN ORDER." Avoid any reference as to how the sticks should be ordered.

Criterion: Arrangement for big to little or vice versa.

Note: Examiner may elaborate on the directions to subject if necessary. However Examiner should avoid being to specific.

37. Materials: Discrimination cards

E presents discrimination cards one at a time. Says, "WHICH ONE IS NOT LIKE THE OTHERS?"

Criterion: 3 of 4 cards done correctly.

Note: E should emphasize the word NOT in the directions.

5.0 Level

38. Materials: Card with geometric shapes.

E presents card. Says "SHOW ME THE_____." (Triangle, square, rectangle).

Criterion: Identifies clearly any 2 of 3.

39. Materials: Coin envelop

E presents common coins to child (penny, nickel, dime). Say, "WHAT IS THIS CALLED?"
A. Penny
B. Nickel
C. Dime

Criterion: 2 minimum

40. Materials: Blocks

E presents 5 blocks in disarray to child. Say, "GIVE ME 4 BLOCKS, PUT THEM HERE." E points to spot on table.

Criterion: Isolates 4 blocks.

VISUAL MOTOR

General Considerations:

This system is concerned primarily with the extent to which the child processes information received through the visual channel. Emphasis should be placed on small muscle control, eye-hand coordination, and visual preception.

2 years 0 months

41. Materials: 4 piece puzzle

E places 4 piece puzzle on table, scatter pieces; say, "PUT THIS TOGETHER".

Criterion: Correct assembly.

42. Materials: 6 blocks

E places six blocks on table. E takes 3 blocks and builds a tower, saying, "SEE IF YOU CAN MAKE WHAT I'M MAKING."

Criterion: Correct arrangement

2 years 6 months

43. Materials: pencil, paper

E draws vertical line on piece of paper. Say, "MAKE ONE LIKE THIS. MAKE IT HERE." E points to paper.

Criterion: Correct if it appears vertical to visual inspection

44. Materials: Colored sticks

E places colored sticks on table. Say, "GIVE ME THIS."

Criterion: Credit if child picks up with thumb and forefinger.

3 years 0 months

45. Materials: 4x5 sheet of paper, scissors

E places 4x5 sheet of paper and pair of scissors on the table. E says, "CUT THIS PAPER WITH THE SCISSORS". Demonstrate if necessary.

Criterion: Credit if child cuts paper.

46. Materials: 5 to 6 piece puzzle

Place 5 to 6 piece puzzle on table, scatter pieces; Say, "PUT THIS TOGETHER."

Criterion: Correct assembly

47. Materials: Book

E places book on Table for child to manipulate. Observe to see if child can turn pages singly. (It may be necessary to encourange child to handle book.)

Criterion: Turning pages one at a time.

3 years 6 months

48. Materials: Six blocks

E places six blocks on table, taking three blocks, E builds a bridge. E says to child, "MAKE ONE LIKE THIS."

Criterion: Correct assembly

Note: No credit if three is no space between the two blocks which make up the the base of the bridge.

49. Materials: 2 cups

E shows child the 2 paper cups. While child watches, pour water into one of the cups. Then, E asks child to pour the water into the other cup.

Criterion: Credit if child pours from one cup to the other cup with minimal spillage.

50. Materials: Pencil, paper

E draws circle on piece of paper. E says to child, "MAKE ONE LIKE MINE."

Criterion: Subject must draw a figure reasonably resembling a circle. Minimal distortions are acceptable.

4 years 0 months

51. Materials: Pencil, paper

E draws a cross or plus sign on paper as child watches. E says to child, "MAKE ONE LIKE MINE. MAT IT HERE."

Criterion: Copy correctly.
The cross should have straight vertical and horizontal lines.
Minimal diagonal intersection allowed.

52. Materials: 2 Strings

E says to child, "WATCH ME". E proceeds to tie a knot in the shoe string. E gives other string to child and says, "LET'S SEE IF YOU CAN DO WHAT I DO".

Criterion: Ties knot correctly. 2 trails.

43. Materials: Two 4x5 sheets of paper

E takes 4x5 sheet of paper and folds it into a triangle. Then E gives child 4x5 sheet of paper, saying, "MAKE ONE LIKE MINE," OR "LET'S SEE IF YOU CAN DO THAT."

Criterion: Diagonal corners should meet

4 years 6 months

54. Materials: Pencil, paper

E gives child pencil and paper. Say, "DRAW A MAN."

Criterion: 3 parts distinguishable.

Note: Pairs should be counted as one part. i.e. eyes, hands, feet

55. Materials: Paper, pencil

E draws a square on paper. Give child pencil and paper. E says, "MAKE ONE LIKE MINE."

Criterion: Copy correctly.
All lines should be relatively equal in length; relatively parallel; four corners should be observable.

56. Materials: 4 blocks, picture card of block design

E places picture of block design and blocks on table. E says to child, MAKE THE BLOCKS LOOK LIKE THE PICTURE".
Note: E may demonstrate but blocks should not be left in position.

Criterion: Correct representation

57. Materials: Scissors, lined paper.

E gives child scissors and lined paper. E says to child, "CUT DOWN THIS LINE."

Criterion: Correctly cut down line.

5 years 0 months

58. Materials: Pencil, paper

Same as # 54. More parts should be discernible.

Criterion: 4 to 5 parts.

59. Materials: Pencil, paper

E draws triangle on paper. Gives child pencil and paper. Say, "NOW, DRAW A TRIANGLE LIKE THIS ONE." (Pointing to figure)

Criterion: Copy correctly.
No credit for rounded corners.
Lines should meet; minimal overlapping ends.

60. Materials: Pencil, paper

E says to child, "CAN YOU WRITE YOUR NAME?" Do not wait for child's response. E says, "WRITE IT HERE."

Criterion: Child must write first name correctly.

MEMORY

General Considerations: This subject is concerned with the child's ability to recall information he received in the test situation as well as the ability to recall previously learned information. The child's memory capacity is assessed as a function of three sensoria, tactile, auditory and visual.

3 years 0 months

61. Materials: None

E says to child, "LISTEN TO ME." Say, "2, 5, 8." Ask child to repeat. If child does not respond, say "6, 1, 3".

Criterion: Child must repeat digits correctly. 2 trials.

62. Materials: 1 small container, 1 car, 1 spoon

E shows child a car and a spoon for several seconds. Then E removes one of the objects. Proceed to show child box containing 2 objects one of which (is the removed object) and ask child to indicate to you the one that you took away.

Criterion: Child must verbally name or point to the object that was removed.

Note: Only one of the objects that child is first presented is placed in the box.

3 years 6 months

63. Materials: Car, spoon, chair

E shows child 3 familiar objects (car, spoon, chair) for 10 seconds, then removes the 3 objects. Place 8 objects, the 3 that were removed plus any additional 5 objects. E says to child, "SHOW ME WHAT YOU SAW BEFORE."

Criterion: Child must recall or point to at least 2 objects.

64. Materials: None

E says to child, "WATCH ME". E pulls ears and touches nose.

Criterion: Child must imitate both actions correctly.

65. Materials: Mystery bag, ball, rock, spoon

E gives child mystery bag which includes 3 familiar objects (ball, rock, spoon). Have child "feel" each object in the bag. E says to child, "WHAT DO YOU FEEL IN THE BAG?"

Note: Do not let child look inside the bag.

Criterion: Child must name 2/3 objects correctly.

4 years 0 months

66. Materials: None

E says to child, "LISTEN TO THIS." E claps hands (1 long, 2 short). E says, "NOW YOU DO IT."

Criterion: Child must imitate clapping pattern correctly.

67. Materials: None

E says to child, "LISTEN AND REPEAT WHAT I SAY." E says, "2, 5, 3, 9." If child does not respond, say "y, 5, 2, 8."

Criterion: Child must recall digits in correct sequence.

68. Materials: Penny, button, car, chair.

E shows child 4 familiar objects (penny, button, car, chair) for 10 seconds, then removes the 4 objects from child's sight. Place 8 objects, the 4 objects that were removed plus the additional 4 on the table. E says to child, "SHOW ME WHAT YOU SAW BEFORE."

Criterion: Child must recall 3/4 objects shown.

69. Materials: 6 blocks (red, green, yellow, blue, orange, purple)

E shows child 2 blocks (red, green) and allows child affew seconds to examine them. Remove the 2 colors shown and behind a screen (piece of paper) mix them in with the four remaining blocks. Then, E says to child, "SHOW ME YOUR 2 BLOCKS", or "SHOW ME THE BLOCKS THAT I HID."

Criterion: Child must identify blocks correctly either by pointing or verbally naming the colors.

70. Materials: None

E says to child, "LISTEN AND REPEAT WHAT I SAY". Say:

a. sock	c. sweater	e. book
b. candy	d. soda	f. camera

Note: Examiner should speak in clear cadence.

71. Materials: Toothbrush, pin, button, crayon, spoon, chair

E shows child 6 familiar objects (toothbrush, pin, button, crayon, spoon, chair) for several seconds, then removes the 6 objects from the child's sight behind a screen. Place 8 objects, 6 objects that were initially shown plus any additional two on the table. E says to child, "SHOW ME WHAT YOU SAW BEFORE".

Criterion: Child must recall 5 objects correctly.

5 years 0 months

72. Materials: 4 keys, 2 buttons, visual sequence card.

E sets up visual sequence pattern which child watches (key, key, button). While setting up pattern E says to child, "WATCH ME. I'M GOING TO MAKE SOMETHING, AND WHEN I'VE FINISHED, I WANT YOU TO SEE IF YOU CAN MAKE THE SAME THING." Once pattern is set, allow child several seconds to examine." E gives child 2 keys and 1 button.

Criterion: Child must copy pattern in correct sequence.

APPENDIX E

Comparison of the Denver Developmental Screening Test and The Developmental Systems Analysis

Comparison of the Denver Developmental Screening Test And the Developmental Systems Analysis

In March, 1975, fifty children in three different NCDCA centers (Hayes, Gibson, Tyler House) were given both the Developmental Systems Analysis (DSA) developed by the project and the Denver Developmental Screening Test (DDST). This is a report of the comparative results. The DDST is divided into four areas of testing including language, fine motor adaptive, personal-social, and gross motor. The DSA given to the children had four parts: language, visual motor, cognition, and memory. The gross motor and personal-social aspects were to be assessed by other techniques (teacher observation and/or emotional checklist).

As an example of the way the Denver was scored, a DDST sheet is included for a child (4 years and six months old in March 1975). This child was said to have a delay in three parts in the fine motor area, so was reported to have a delay in one area (fine motor), but delays were not recorded in other areas so the child was not declared to have a problem. The DDST scoring allows for a decision of "normal", "abnormal", and questionable. On the DSA the same child scored above normal in the areas of language, cognition, visual motor, and memory and therefore, in that test also, was declared to not have a problem.

In the DDST results, no children scored "abnormal", but 24 show a slight delay in the fine motor area and one child also had a language delay, which placed the child in the questionable category.

In the DSA results, only one child was considered abnormal (given the criteria of a lag (chronological age minus developmental age)) of six months or more in two or more areas of testing. This was the same child that was considered questionable by the DDST due to showing slight delays in the

DENVER DEVELOPMENTAL SCREENING TEST

4.6

STO = STOMACH
SIT = SITTING

PERCENT OF CHILDREN PASSING
25 50 75 90

May pass by report — Footnote No. — see back of form

Test Item

Date 9-18-74
Name
Birthdate 3-24-70
Hosp. No.

230

MONTHS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

YEARS 2½ 3 3½ 4 4½ 5 5½ 6

PERSONAL-SOCIAL

REGARDS FACE
SMILES RESPONSIVELY
SMILES SPONTANEOUSLY
INITIALLY SHY WITH STRANGERS
PLAYS PAT-A-CAKE
FEEDS SELF CRACKERS
RESISTS TOY PULL
50%
PLAYS PEEK-A-BOO
WORKS FOR TOY OUT OF REACH
★ 100% pass at birth
PLAYS BALL WITH EXAMINER
INDICATES WANTS (NOT CRY)
DRINKS FROM CUP
REMOVES GARMENT
IMITATES HOUSEWORK
USES SPOON, SPILLING LITTLE
HELPS IN HOUSE – SIMPLE TASKS
PLAYS INTERACTIVE GAMES e.g., TAG
PUTS ON CLOTHING
P BUTTONS UP
WASHES & DRIES HANDS
P DRESSES WITH SUPERVISION
P SEPARATES FROM MOTHER EASILY
P PLAYS WITHOUT SUPERVISION

FINE MOTOR-ADAPTIVE

FOLLOWS TO MIDLINE
EQUAL MOVEMENTS
FOLLOWS PAST MIDLINE
FOLLOWS 180
HANDS TOGETHER
GRASPS RATTLE
REGARDS RAISIN
REACHES FOR OBJECT
SIT, LOOKS FOR YARN
SIT, TAKES 2 CUBES
RAKES RAISIN ATTAINS
PASSES CUBE HAND TO HAND
BANGS 2 CUBES HELD IN HANDS
THUMB-FINGER GRASP
NEAT PINCER GRASP OF RAISIN
DUMPS RAISIN FROM BOTTLE-DEMONSTR
SCRIBBLES SPONTANEOUSLY
TOWER OF 2 CUBES
TOWER OF 4 CUBES
DUMPS RAISIN FROM BOTTLE-SPONT.
IMITATES VERTICAL LINE WITHIN 30°
F COPIES +
F COPIES O
COPIES □
IMITATES BRIDGE
IMITATES □ DEMONSTR.
P TOWER OF 8 CUBES
P DRAWS MAN 3 PARTS
DRAWS MAN 6 PARTS
F KS LONGER LINE 3 OF 3

LANGUAGE

RESPONDS TO BELL
VOCALIZES - NOT CRYING
LAUGHS
SQUEALS
TURNS TO VOICE
DADA OR MAMA, NONSPECIFIC
IMITATES SPEECH SOUNDS
DADA OR MAMA, SPECIFIC
3 WORDS OTHER THAN MAMA, DADA
COMBINES 2 DIFFERENT WORDS
POINTS TO 1 NAMED BODY PART
NAMES 1 PICTURE
FOLLOWS DIRECTIONS/2 of 3
USES PLURALS
P COMPREHENDS COLD, TIRED, HUNGRY/2 of 3
P COMPREHENDS PREPOSITIONS/3 of 4
P RECOGNIZES COLORS/3 of 4
F OPPOSITE ANALOGIES 2 of 3
87%
F DEFINES WORDS/6 of 9
87%
P GIVES 1ST & LAST NAME
F COMPOSITION OF/3 of 3

GROSS MOTOR

R STO LIFTS HEAD
STO HEAD UP 45°
STO HEAD UP 90
STO CHEST UP ARM SUPPORT
SIT - HEAD STEADY
ROLLS OVER
BEAR SOME WEIGHT ON LEGS
PULL TO SIT NO HEAD LAG
SITS WITHOUT SUPPORT
STAND'S HOLDING ON
PULLS SELF TO STAND
GETS TO SITTING
STANDS MOMENTARILY
WALKS HOLDING ON FURNITURE
STANDS ALONE WELL
STOOPS & RECOVERS
WALKS WELL
WALKS BACKWARDS
WALKS UP STEP
KICKS BALL FORWARD
THROWS BALL OVERHAND
BALANCE ON 1 FOOT 1 SECOND
JUMPS IN PLACE
PEDALS TRICYCLE
BROAD JUMP
BALANCE ON 1 FOOT 5 SECONDS/2 of 3
P BALANCE ON 1 FOOT 10 SECONDS/2 of 3
P HOPS ON 1 FOOT
F CATCHES BOUNCED BALL/2 of 3
F HEEL TO TOE WALK/2 of 3
F BACKWARD HEEL-TOE/2 of 3

areas of fine motor and language. The DSA showed a 10 month lag in language, visual motor, and cognition and a 4 month lag in memory. No child scored 12 months or more behind in 2 or more areas of testing.

The data for this analysis enclosed as Table E .1 where it can be seen that, in terms of the specific areas tested, there is some disagreement as to which child has delays in individual areas of testing.

Both tests had language areas. Some of the items in each area were similar. The statement in each test about the normed age (when 80% of the children in the case of the DSA and 75% in the case of the DDST should be able to conduct the test) is shown as follows:

DSA Language	Age	DSA Language	Age
Names picture (8 minimum)	2.0	Names picture (1 minimum)	2.6
Uses plurals	3.0	Uses plurals	3.1
Comprehends "cold, tired, hungry" - (2 minimum)	3.6	Comprehends "cold, tired, hungry" - (2 minimum)	4.0
Comprehends prepositions	3.6	Comprehends prepositions	4.6

Note: 2.6 means 2 years, 6 months

The normed age is slightly different in two of the items with the children able to comprehend prepositions nearly a year earlier in the DSA. The visual motor and fine motor areas also had similar items shown below.

DSA		Denver	
Visual Motor	Age	Fine Motor - Adaptive	Age
Thumb and forefinger grasp	2.6	Princer grasp	14 mo.
Cube tower - 3 blocks	2.0	Cube tower - 2 blocks 4 blocks	20 mo. 2.3
Vertical Line ("correctly copied")	2.6	Verticle line (within 30^{o})	2.9
Copies O	3.6	Copies O	3.3

TABLE E.1

Data for DDST - DSA Comparison March 1975 - National Child Day Care Association

	DEVELOPMENTAL SYSTEMS ANALYSIS													DENVER DEVELOPMENTAL					
Date of Birth	Lang. Chron. Age	Lang Dev Age	Lang. Diff.	V.M. Chron Age	V.M. Dev. Age	V.M. Diff	Cog. Chron. Age	Cog. Dev. Age	Cog. Diff	Mem. Chron Age	Mem. Dev. Age	Mem. Diff.	No. 6 mo. Lags	No. 12 mo. Lags	Per-Soc. Score	Fine Mo. Score	Lang. Score	Gross Mo. Score	No. Delayed Areas	No. Refusals or No. Oppor.
3-24-70	48	48	0	36	42	+6	36	48	+12	36	42	+6	0	0	✓	-3	✓	✓	1	0
3-24-70	48	48	0	48	42	-6	48	48	0	48	48	0	1	0	1?	✓	✓	✓	0	1
5-27-70	58	54	-4	58	54	-4	58	60	+2	58	48	-10	1	0	✓	✓	✓	✓	0	0
6-18-69	57	60	+3	57	60	+3	57	54	-3	57	48	-9	1	0	✓	✓	✓	✓	0	0
6-30-70	45	54	+9	45	42	-3	45	54	+9	58	54	-4	0	0	✓	-1	✓	✓	1	0
8-08-70	43	48	+5	43	36	-7	43	48	+5	43	42	-1	1	0	✓	✓	✓	✓	0	0
2-03-71	37	42	+5	38	42	+4	38	48	+10	38	42	+4	0	0	✓	✓	✓	✓	0	0
3-27-70	48	54	+6	48	60	+12	48	54	+6	48	48	0	0	0	✓	✓	✓	✓	0	0
7-27-70	44	48	+4	44	42	-2	44	48	+4	44	42	+2	0	0	✓	✓	✓	✓	0	0
4-03-70	44	54	+10	44	48	+4	44	48	+4	44	48	+4	0	0	✓	✓	✓	✓	0	0
4-20-70	47	54	+7	47	48	+1	47	54	+7	47	54	+7	0	0	✓	-1	✓	✓	1	0
8-08-70	43	48	+5	43	48	+5	43	54	+11	43	48	+5	0	0	✓	-1	✓	✓	1	0
1-27-71		42		32	42	+10	32	36	+4	32	36	+4			✓	-1	✓	✓	1	0
10-02-70	41	42	+1	41	42	+1	41	48	+7	41	42	+1	0	0	✓	✓	✓	-2?	0	1
1-06-70	50	54	+4	50	54	+4	50	60	+10	51	48	-3	0	0	✓	✓	✓	✓	0	0
1-15-70	50	48	-2	50	42	-8	50	54	+4	50	54	+4	1	0	✓	✓	✓	✓	0	0
1-26-70	37	42	+5	37	42	+5	37	48	+11	38	42	+4	0	0	✓	✓	✓	✓	0	0
5-26-71	40	36	-4	40	48	+8	40	42	+2	43	36	-7	1	0	✓	-1	✓	-1?	1	1
2-17-70	38	42	+4	38	42	+4	38	42	+4	37	42	+5	0	0	✓	✓	✓	-1?	0	1
10-06-70	41	54	+13	41	48	+7	41	48	+7	41	48	+7	0	0	✓	-1	✓	✓	1	0
3-17-71	36	42	+6	35	36	+1	36	42	+6	36	42	+6	0	0	✓	-1,1?	✓	-1?	1	2
2-19-70	49	54	+5	49	54	+5	49	48	-1	50	48	-2	0	0	✓	✓	✓	✓	0	0
6-10-70	45	48	+3	45	48	+3	45	54	+9	45	42	-3	0	0	✓	✓	✓	✓	0	0
9-03-70	42	48	+6	42	42	0	42	48	+6	42	42	0	0	0	✓	✓	✓	✓	0	0
1-18-71	38	48	+10	38	36	-2	38	36	-2	38	42	+4	0	0	✓	-1	✓	✓	1	0
3-31-71	35	42	+7	35	36	+1	35	42	+7	35	36	+1	0	0	✓	-1	✓	✓	1	0
4-02-70	47	54	+7	47	60	+13	47	54	+7	47	48	+1	0	0	✓	✓	✓	✓	0	0
11-30-70	39	42	+3	39	42	+3	39	48	+9	39	42	+3	0	0	✓	-1	✓	✓	1	0
10-02-70	41	42	+1	41	36	-5	41	36	-5	41	42	+1	0	0	✓	-1	✓	✓	1	0
5-14-70	46	48	+2	45	48	+3	46	42	-4	45	48	+3	0	0	✓	0	✓	✓	0	0
12-30-70		48		38	36	-2	38	48	+10	38	42	+4			✓	-1	✓	-1	1	1
6-10-71		42					43	36	-7	43	42	-1			✓	-2	✓	✓	1	0
4-20-70	50	60	+10	50	48	-2	49	54	+5	50	54	+4	0	0	✓	1	✓	✓	1	0
4-03-71	38	42	+4	38	42	+4	39	48	+9	39	42	+3	0	0	✓	✓	✓	1?	0	1
2-27-70	52	54	+2	52	54	+2	51	48	-3	52	42	-10	1	0	✓	1	✓	-1?	1	1
6-04-70	48	54	+6	49	48	-1	48	54	+6	49	60	+11	0	0	✓	✓	✓	✓	0	0
2-07-70	52	48	-4	53	48	-5	52	48	-4	52	42	-10	1	0	✓	✓	✓	-1?	0	1
3-19-70	51	54	+3	51	54	+3	50	54	+4	51	42	-9	1	0	✓	✓	✓	-1	0	1
8-10-70	34	24	-10	34	24	-10	34	24	-10	34	30	-4	3	0	✓	-3	-1	✓	2	0
5-17-70	49	54	+5	49	48	-1	48	48	0	49	54	+5	0	0	✓	✓	✓	1?	0	1
6-30-70	47	54	+7	48	48	0	47	48	+1	48	60	+12	0	0	✓	1	✓	✓	1	0
4-11-71	38	42	+4	39	42	+3	38	42	+4	38	42	+4	0	0	✓	1	✓	1?	1	1
9-03-70	45	48	+3	45	48	+3	48	42	-6	46	54	+8	1	0	✓	1	✓	1?	1	1
8-16-70	46	48	+2	46	48	+2	46	48	+2	46	42	-4	0	0	✓	✓	1?	1?	0	2
8-19-70	45	54	+9	45	54	+9	45	42	-3						✓	1	✓	✓	1	0
1-16-70	53	60	+7	53	60	+7	52	60	+8	53	60	+7	0	0	✓	✓	✓	✓	0	0
8-19-70	46	48	+2	46	48	+2	45	48	+3	46	54	+8	0	0	✓	✓	✓	✓	0	0
2-08-71	40	48	+8	41	42	+1	40	48	+8	40	54	+14	0	0	✓	1	✓	1?	1	1
2-22-70	52	54	+2	52	48	-4	51	54	+3	52	48	-4	0	0	✓	1	✓	1?	1	1
12-02-70	42	48	+6	42	42	0	41	48	+7	42	48	+6	0	0	✓	1	✓	✓	1	0

DSA		Denver	
Visual Motor	Age	Fine Motor - Adaptive	Age
Imitates Bridge	3.6	Imitates Bridge	3.6
Copies +	3.6	Copies +	4.3
Draw a man - 3 parts	4.6	Draw a man - 3 parts	5.2
		6 parts	6.0

Except for the thumb and forefinger grasp and the "copies O", the DSA items were expected to be done as slightly earlier ages.

The results of the dual testing revealed that the conclusion about the one child needing assistance was shared by both tests, but that each test brought out slightly different areas of development where slight delays were observed.

APPENDIX F

List of Suggested Treament Activities Given to Teachers
For Children with Developmental Lags

SUGGESTED TREATMENT ACTIVITIES

I. Language

Skills-Active Vocabulary

1) Labeling
2) Matching
3) Interpreting pictures, description

Expressive Language

1) Concepts
2) Classifying
3) Matching
4) Puppets

Concept Formation as Reflected in Language

1) Concrete (real objects)
2) Representation
   a) Pictures
   b) Sound
   c) Touch
   d) Taste
   e) Clay Molds
   f) Drawing
   g) Painting
3) Abstract-Flash Cards

Articulation

1) Tongue Exercises
2) Stimulation
   a) Tape Recorder-Auditory Discrimination
3) Production of Sound in Isolation
4) Phonics Boards
5) First Sounds Sorting Boxes

Receptive (Non-Verbal) Possible Hearing Factors

1) Following Commands
2) Doing Activities in Sequence
3) Following Directions
4) Sentence Sequence Formulation
   a) Making Up Stories
   b) "Tell Me About It"
   c) Show and Tell

II. Visual Motor

Eye Hand Coordination

1) Stacking Blocks
2) Pegs and Pegboard
3) Stringing Beads
4) Cutting with Scissors
5) Crayon Coloring

Small Muscle Control

1) Pickup Sticks
2) Scissors
3) Jars and Lids
4) Painting
5) Clothes Pin Game
6) Crayons

Perception
1) Rice Game
2) Reproducing Patterns
3) Pegs and Pegboard
4) Block Patterns
5) Puzzles
6) Keys and Lock Game
7) Jars and Lids Game
8) Go Together Boxes

III. Memory

Tactile
1) The Feely Board
2) The Mystery Bag
3) Rough and Smooth Game

Visual
1) Block and Bead Patterns
2) Pegs and Pegboard
3) Matching
4) Flash Cards
5) What's Missing Game

Auditory
1) Sound Boxes
2) Stories
3) Records with Instructions
4) Clapping Patterns

Remote
1) Telling Stories Previously Heard
2) Nursery Rhymes and Songs
3) Discussion of Past Events

Immediate
1) Digit Span
2) Imitating Actions

IV. Cognition

Problem Solving
1) Number Lines
2) Number Dates
3) Combination Blocks
4) Number Board
5) Bead Frames
6) Simple Mazes
7) Matching Games

Classification

1) The Food Game
2) Float and Sink Game
3) The Same-Difference Game
4) Weight Boxes
5) Patterns
6) Days of the Week
7) Sniffing Bottles
8) Where Does This Belong Game
9) Sorting Games

Seriation

1) Seriation Sticks
2) Stacking Rings
3) Nesting Cups
4) Big-Little Seriation Games
5) Weight Boxes
6) Cylinders
7) Heights

Discrimination (Color, Shape, Size)

1) Matching Games (Lotto, Common Objects, etc.)
2) Sorting Games (by color, shape, size)
3) Rough and Smooth Games
4) Float and Sink Games
5) Sound Cons
6) Sniffing Bottles
7) Weight Boxes

Object Permanency

Hide and Seek Games

Conservation

1) Hunger and Clothes Pins Game
2) Refer to activities under problem solving.

Number Concepts

1) Refer to activities # 1, 2, 4 under problem solving.
2) Number Cons
3) Counting Games
4) The 1-10 Train
5) Rings and Fingers
6) Blocks
7) Pegs
8) Beads
9) Hangers and Clothes Pins
10) Calendar

Time Concept

1) Clock
2) Daily Classroom Schedule
3) Songs
4) Stories

Color Concept
1) Beads
2) Paints (mixing)
3) Songs
4) Pegs
5) Crayons
6) Fruit
7) Playdough
8) Matching Games (by color)
9) Sorting by Color
10) Art Activities

Causality Concept
1) The Snow Game
2) Growing Plants
3) The Weather
4) Cooking Activities
5) Water Evaporation Experiment
6) Float and Sink
7) Water Play Table

Money Concept
1) Trips to the Store
2) Play Money
3) Bank Street Materials
4) The Money Game

Space
1) Rythmic Activities
2) Up and Down Games
3) Outdoor Equipment
4) Games to teach concepts of beside, in front of, behind.

APPENDIX G

Examples of Pre and Post Tests Given to
Paraprofessional Trainees

12 1/2

SECTION III

IMMUNIZATION & LABORATORY TESTS

A. True - False

Read each question carefully before marking your answer.

(T) - F 1. A full term baby receives a high degree of "passive immunity" from a healthymother.

(T) - F 2. For the first few months of life the full term baby who is kept clean and fed properly is relatively free of serious communicable diseases.

T - (F) 3. If a pregnant women gets german measles there is no danger to the mother or or the baby.

(T) - F 4. The major sources of lead poisoning are paint and plaster containing lead.

T - (F) 5. Sickle cell anemia affects non-black people as well as black people.

T - (F) 6. A person with the sickle cell trait is also suffering from sickle cell anemia.

B. Multiple Choice: Check the one that in your opinion is the best possible answer.

1. Lead poisoning is a disease that affects the central nervous system and causes
____ mental retardation
____ poor coordination
____ hyperactivity
_X_ all of the above
____ none of the above

2. The word (veni puncture) means:
_X_ drawing blood by means of a stick on the finger
____ giving a pint of blood
____ drawing blood by means of inserting a hypodermic needle in the vein
____ receiving a blood transfusion

3. Some of the things we can find out about a persons health by doing a urine test are:
____ 1. whether his kidneys are removing body wastes.
____ 2. whether he may have diabetes.
____ 3. whether he may have a liver disease
_X_ 4. all of the above
____ 5. none of the above.

Page 2 Immunizations and Laboratory tests cont.

4. When a child is having blood drawn it is important to:
   ___ tell him it will not hurt.
   _X_ tell him it will hurt, but you will stay with him
   ___ hold him tightly and cover his mouth so the person drawing the blood can concentrate ___?

C. Short Essay

1. What do the letters D.P.T. stand for?
Diptheria - pertussis & tetenus

2. List the immunizations that children should get; tell what ages they should get them and why immunizations are necessary.
8 weeks old DPT Polio whooping cough
16 weeks old DPT Polio is a killer or
24 weeks old DPT Polio very children
1 year old Measles, Mumps & Rubella Polio is a cripple
4 years old DPT Booster
Polio Booster

3. What is the Tine Test?
TB skin test that should be checked
in 48 to 72 hours to tell if a person
has been in contact with a contaminated person

4. Explain what is meant by the term infectious diseases?
Any disease that can be caught. By means
of one person transfering it to another

5. Why are blood test necessary?
By a blood test they can tell
if the child has anemia or liver and kidney
problems. If there is anemia in blood and other things

Page 3 Immunizations and Laboratory tests cont.:

6. Order the following steps to be taken when collecting a clean catch urine specimen on a female.

2 Waste the first few drops of urine. 3
4 Wipe labia (lips) with cleansing solution. 2
1 Explain the procedure to child and/or parent. 1
3 Collect the midstream urine in container. 4

7. In reviewing the chart of 5 year old Tom, you note that he was immunized against Diptheria, Pertussis, Tetanus once at age 6 months. He has never received an immunization against polio.

A. What immunizations, if any does he need? 2 more DPT shots 3 Polio Vaccines at 6 to 12 weeks the doses of polio & DPT

B. What would you say to the parent or caretaker about this? Explain the importance of the shots and point out that the child was fortunate not to have gotten the disease.

SECTION IV

FIRST AID/ PREVENTION OF ILLNESS

Read each question carefully before marking your answer.

A. TRUE - FALSE

(T) - F 1. Artificial respiration should not be given unless the child has stopped breathing.

(T) - F 2. A person can bleed to death.

T - (F) 3. You can always tell if a bone is broken by looking at the area.

(T) - F 4. Compound bone fractures usually damage a great deal of surrounding tissue.

T - (F) 5. When a child has swallowed a poison he should always be encouraged to vomit.

B. Multiple - Choice: Check the one that, in your opinion, is the best possible answer.

1. When a child becomes ill the illness:
X May have permanent damage on the child's body and mind.
____ Will bring the family closer together.
____ Will probably be short because children's bodies bounce back.

2. A child who is ill experiences changes in
____ Diet
____ Exercise
____ Play
____ Stimulation
X All of the above

3. Children spread contagious diseases to each other by:
____ Coughing and sneezing on each other
____ Sharing food
____ Playing together with the same toys
X All of the above
____ None of the above

4. When a child has been hit in the headhe should be observed for?
____ Nausea and vomitting
____ Sleepiness
____ Headache
____ Double vision
X All of the above
____ None of the above

5. After a child falls from a height of 10 feet to the ground you should:
   X Examine him carefully, bevore allowing him to move
   ____ Encourage him to get up and walk around
   ____ Keep him still until a medical professional can examine him.

6. If a child has taken poison by mouth he might complain of
   ____ Pain or buring in the mouth and throat
   ____ Vomiting
   ____ Painful swallowing
   ____ Tiredness
   X All of the above
   ____ None of the above

7. If a child has swallowed a bottle of "Liquid Plumber" (a strong alkaline solution) you should do what before going to the hospital:
   ____ Induce comitting with raw eggs or Ipicae
   ____ Wait 30 minutes and induce vomitting
   X Force the child to drink 3 - 4 glasses of water or milk

8. Kitty, 2 years old, and Parker 3 years old are brought to the day care center by their mother who is coughing and sneezing. During the day Kitty feels flushed and refuses food. Parker is very cranky and fights with other children. You suspect they are coming down with whatever mother has. You checked Kitty's temperature and it was 102° rectally. When mother picks them you should:
   ____ Remind her to use klennex and cover her mouth and nose when sneezing and coughing.
   X Suggest she leave the children at home tomorrow.
   ____ Tell the mother to give Kitty and Parker aspirin or some Dristan and they will probably be all right by tomorrow.

C. Short Essay

1. Why is it important for a child to have regular physical examinations?

Because there are many diseases or health problems that a child could possibly detect. Many immunizations are needed on a regular basis,

5. After a child falls from a height of 10 feet to the ground you should:
X Examine him carefully, bevore allowing him to move
___ Encourage him to get up and walk around
___ Keep him still until a medical professional can examine him.

6. If a child has taken poison by mouth he might complain of
___ Pain or buring in the mouth and throat
___ Vomiting
___ Painful swallowing
___ Tiredness
X All of the above
___ None of the above

7. If a child has swallowed a bottle of "Liquid Plumber" (a strong alkaline solution) you should do what before going to the hospital:
___ Induce comitting with raw eggs or Ipicae
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___ Remind her to use klennex and cover her mouth and nose when sneezing and coughing.
X Suggest she leave the children at home tomorrow.
___ Tell the mother to give Kitty and Parker aspirin or some Dristan and they will probably be all right by tomorrow.

C. Short Essay

1. Why is it important for a child to have regular physical examinations?
Because there are many diseases or health problems that can't necessarily detect. Many immunizations are needed on regular basis

APPENDIX H

Observer Checklist Used for Rating the
Paraprofessional Trainees Working with Children

NATIONAL CHILD DAY CARE ASSOCIATION
EARLY AND PERIODIC SCREENING DIAGNOSIS AND TREATMENT PROGRAM

Trainees Name_____ Date_____

Observation 1 2 3 4 5 Time of Observation_____

Place of Observation_____

Observers Name_____

OBSERVATION INSTRUMENT
Experimental Form

1.	Able to accept suggestions	7	6	5	4	3	2	1	Defensive about suggestions
2.	Recognizes mistakes	7	6	5	4	3	2	1	Does not recognize mistakes
3.	Involves self in activities	7	6	5	4	3	2	1	Does not involve self in activities (withdrawn)
4.	Accepts Self	7	6	5	4	3	2	1	Dissatisfied with self
5.	Supportive	7	6	5	4	3	2	1	Nonsupportive
6.	Warm and sincere liking for children	7	6	5	4	3	2	1	Lacks warm and sincere feelings for children
7.	Good sense of humor	7	6	5	4	3	2	1	Lacks sense of humor
8.	Able to observe, children's behavior	7	6	5	4	3	2	1	Not able to observe, children's behavior
9.	Able to communicate own feelings	7	6	5	4	3	2	1	Not able to communicate own feelings
10.	Can verbalize feelings of child	7	6	5	4	3	2	1	Cannot verbalize, feelings of child
11.	Helps children with impulse control	7	6	5	4	3	2	1	Does not help children with impulse control
12.	Can intepret the child's feelings	7	6	5	4	3	2	1	Cannot intepret the child's feelings
13.	Able to record children's behavior	7	6	5	4	3	2	1	Not able to record children's behavior
14.	Able to establish rapport	7	6	5	4	3	2	1	Unable to establish repport
15.	Praises child	7	6	5	4	3	2	1	Does not praise child
16.	Gives child opportunity for success	7	6	5	4	3	2	1	Does not give child opportunit for success

17. Physically supportive	7	6	5	4	3	2	1	Physically distant
18. Sets limits	7	6	5	4	3	2	1	Does not set limits
19. Consistent in behavior	7	6	5	4	3	2	1	Inconsistent in behavior
20. Shows knowledge of appropriate stage concern in interaction with child	7	6	5	4	3	2	1	Does not show knowledge of appropriate stage concern in interaction with child
21. Helps child appropriately test reality	7	6	5	4	3	2	1	Does not help child appropriately test reality
22. Encourages age-appropriate behavior	7	6	5	4	3	2	1	Does not encourage age appropriate behavior
23. Recognizes age- appropriate emotional concerns	7	6	5	4	3	2	1	Does not recognize age appropriate emotional concern
24. Talk with child	7	6	5	4	3	2	1	Does not talk with child

COMMENTS:

Definitions for items in OBSERVATION INSTRUMENT

1. Listens to what is being said by the teacher (or other person in charge) and acts upon it. Does not offer rationalizations for his/her behavior.

2. Is able to, either when told by the teacher or through his own awareness, realize that he has made a mitake, It is also necessary to show that he accepts the fact that a mistake was made, and is able to change the behavior freely.

3. The trainee takes an active part in initiating and carrying out activities with the children/and/or in following through with activities as directed by the teacher.

4. Appears calm and in control of self and situation. Appears to be at ease with the child and with the situation. In able to shrug off accidents - does not take things personally.

5. Supports child in the way he/she needs to be supported at any specific point in time. This may mean a hug or a positive word, but in may also mean being firm, restricting the child etc.

6. Appears to genuinely like all children. Does not show favoritism or have special teachers pets. Is able to admit when she/he cannot deal with a child at any specific point and is able to ask the teacher to take over.

7. Shows humor (in keeping with the child's level). Can tell jokes, make the children laugh, relax and feel comfortable. Can accept being the object of a joke.

8. Is able to pick up on cues from children and follow through on them. Observer should note the time interval between a child's behavior and the trainees reaction to the children. e.g. Does the child get into a potentially mischevious situation that the trainee does or does not observe.

9. Is the trainee able to verbally express how he/she feels about a particular event or situation. e.g. Does he/she use sentenses that begin with "I feel", "Johnny, that makes me angry ", "I am happy that etc....

10. Is the trainee able to verbalize for the child how he/she is feeling e.g. "It's okay to be afraid" or "I know it's hard to share the toy"

11. Helping the child with impulse control may range from helping the child "use his/her brakes". Examples of this might range from telling the child to stop engaging in an undesirable behavior to literally physically holding the child to restrain him: to helping the child delay gratification, wait his turn etc.

12. Interpreting child's feelings include verbalilzing the child's feelings, as well as the reason for the feeling the (the because) e.g. "You're afraid because you have never been to the dentist and you are not sure what she will do ".

13. The trainee accurately completes the adjective check list. (This may often not be observed by the observer.)

14. Appears to be relaxed with child, and is able to help the child relax. Is able to be conversant and/or communicative with child. Takes the time to get to know the child before making demands.

15. Praises child verbally by uses words such as "good", "you really did well Johnnie, etc" or praise non-verbally by facial or body gestures e.g. a smile, hug etc.

16. Does the trainee involve the child in tasks where the child might succeed. Does the trainee select tasks according to what she/he knows to be approriate for the child.
Is the trainee able to cue in to the individual child's ability or special talent and select tasks accordingly.

17. Is the trainee able to give a positive hug or touch when the child needs it. On the other hand, can the trainee physically restrain (hold the child's breaks when necessary)

18. Does the trainee give the child a clear indication of what the limits are? Is he/she consistent in enforcing the limits. e.g. "You cannot hit Johnny, even though you are angry. "We play with the block in the block area, please take them back.

19. Is the trainee applying the same rules, limits etc to each child in every situation that arises.

20. Does the trainees seem to know what tasks, behaviors etc are appropriate for children at specific ages. Does he/she seem to know what behaviors can be expected of children, even if he/she is not familiar with the particular child in question.

21. Take the situation where Johnnny child sees Alice repremanded for spitting; Johnny then elects to throw one to see what the trainee will do. In such case the trainee should show consistency and restate the rules, giving the child clear evidence of the reality limits.

22. Here the trainee should evidence that he/she can implement #20.- Knows age appropriate behavior and can help child choose tasks that are appropriate to his age and level of development.

23. The trainee should show by acceptance of the child's behavior that he/she has his skill for e.g. if a three year old is showing signs of "separation anxiety" that's okay. However, if a ten year old is showing signs of "separation anxiety" - the trainee should be supportive of the child, but should speak to the appropriate person about re ferral etc

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